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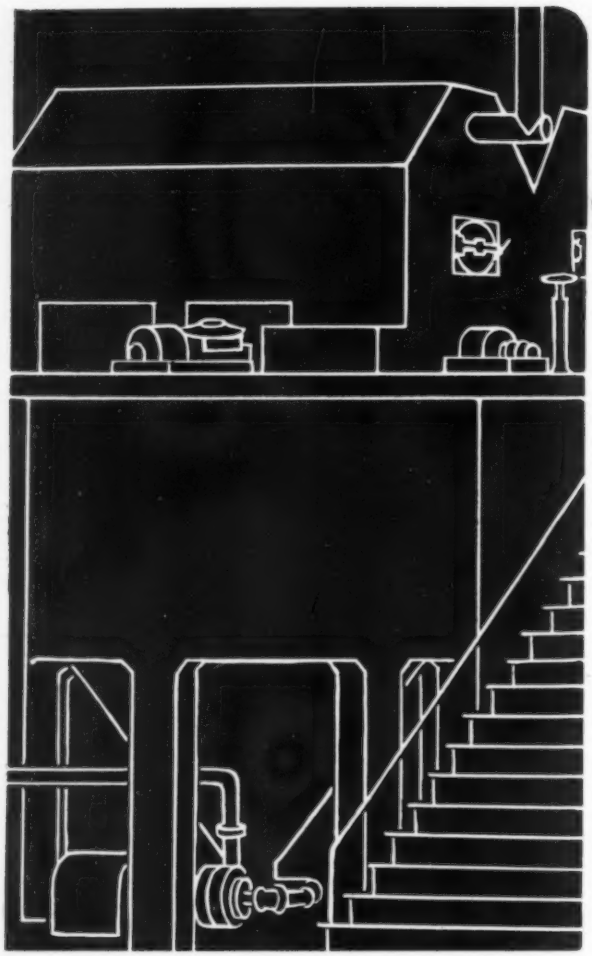
This is a CARBONATOR

Where we convert Slaked Lime into



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The slaked lime must pass through one more chemical change before the final product, precipitated calcium carbonate, is reached. This reaction takes place in one of the carbonators where the lime meets the purified carbon dioxide gas which was driven off in the kiln when the limestone burned to lime. Here the slaked lime and carbon dioxide reunite to form calcium carbonate, which is the same in chemical composition as the limestone with which the process started, but the physical form has changed completely from the natural stone to the fine-particled, bright white carbonate which is Snow Top. *The carbonator is the very heart* of the manufacturing process as it is here that the *grade* of the final product is determined. All grades of Snow Top Precipitated Calcium Carbonate are alike in chemical composition, as they are made from the same basic material, but the differing physical properties of the grades from Extra Heavy to Super Light are determined by the controlled manner in which the lime slurry and gas are brought together. When the material leaves the carbonator it is one of the grades of Snow Top Precipitated Calcium Carbonate and, although there are several other steps in the process through which it must pass before it is ready for shipment, there are no further changes in the chemical or physical form of the carbonate particle.

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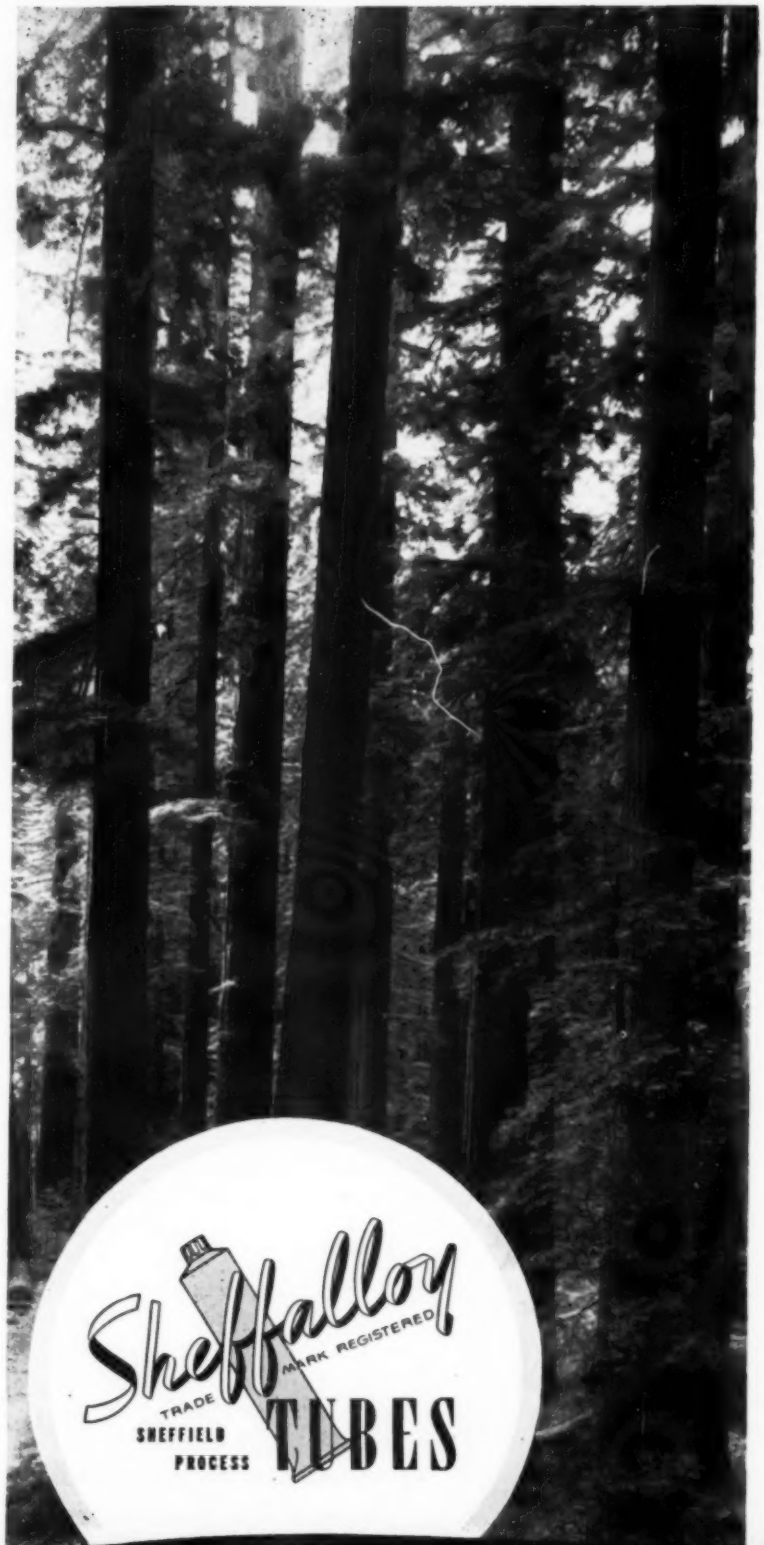

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Drug & Cosmetic INDUSTRY

JULY 1944

CONTENTS

KEEPING POSTED	29
WHEN DOCTORS MAKE MISTAKES	34
A.Ph.M.A. MEETING	36
MEN'S HAIR GROOMS	37
CHLOROPHYLL	38
SOUTH AMERICAN WAY	40
INSECT REPELLENTS	42
COSMETIC HORMONE CREAMS	43
MENADIONE	45
PACKAGING AND SELLING	47
NEWS	63
PRODUCTION FORUM	75
PERFUMER'S SHELF	88
COMPOUNDER'S CORNER	92
ADVANCING THERAPY	95
INDUSTRY'S BOOKS	100
PURCHASING DEPARTMENT	101

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Bear in mind that war-developed production methods have *lowered* package costs—but *raised* standards of package utility. There were notable advances in packaging *before* the war. And manufacturers competed to get the best sales-making packages. But TODAY—many a prewar package is already "outdated"—obsolete in structure, material or design.

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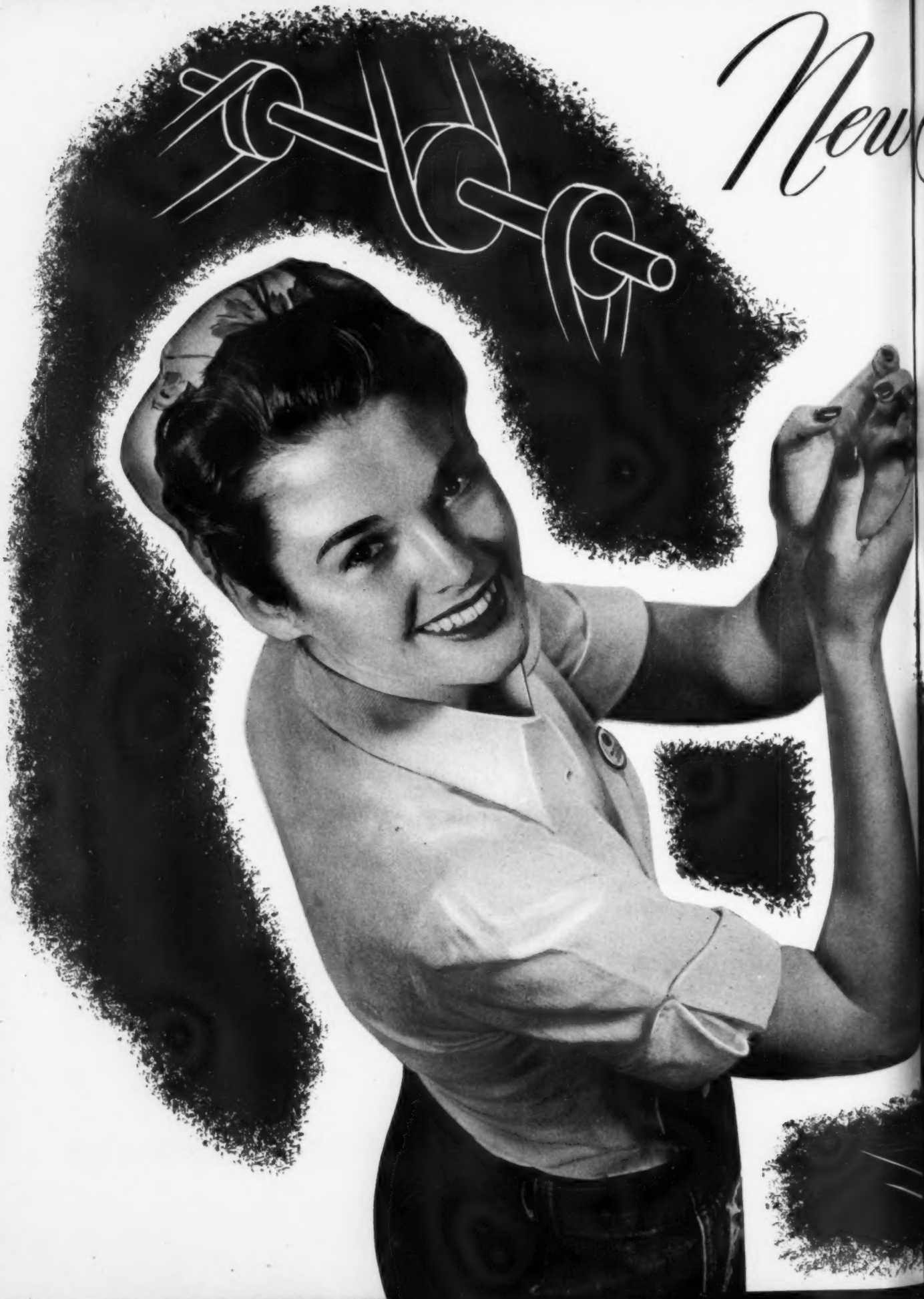
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INSIDE NEWS

JULY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1944

"Mold-Like" Formation On Stored Frozen Fruits Not Caused By Contamination

The white, fondant-like material which sometimes forms on the surface of the pack during the storage of frozen fruits, is made up primarily of sucrose, according to government researchers.

Those mold-like white patches, especially noticeable on fruits or berries of a deep red color, and which tend to increase in size as the storage period lengthens, were recently analyzed by Western Regional Research Laboratory operated by the Bureau of Agricultural and Industrial Chemistry.

Purpose of the research was to assist packers of frozen fruits to answer the criticisms of consumers, who have tended to suspect contamination.

The white growth has presented this problem most acutely to packers of (1) such fruits as unpitted sweet cherries with relatively little juice to dilute the sugar solution or syrup, (2) fruits with high original concentrations of sucrose, syrup or added sugar, and (3) fruits stored at relatively low sub-freezing temperatures. Frequently evident at 0°F. or below, the white patches rarely form at 15°F., but are more common where the containers permit a gradual dehydration, and where storage temperatures fluctuate.

Tests were made on typical formations arising during the freezing and storage of commercial frozen strawberries packed with sugar in paper cup containers.

To detect levulose, the material was extracted with 95% alcohol (saturated with sucrose) and tested with Seliwanoff's reagent. Reaction was only slightly positive. A further check, with the Jackson-Mathews Modification of Nyn's Selective Method, indicated only traces of this sugar.

However, the determination of the reducing sugars before and after inversion, by the Munson and Walker General Method revealed 82.3% sucrose, 4.71% reducing sugars (dextrose) with the remainder consisting of water and traces of unidentified substances. Microscopic examination also revealed small crystals resembling fine crystals of sucrose.

Researchers conclude that the fondant-like material is primarily due to crystallization of sucrose from the pack; and that its "mold-like" appearance is in all probability due to the slow speed of crystallization influenced by conditions not yet clearly understood. 685

Glycerine As Food Preservative

Indicative of the value of glycerine as a preservative in food processing is a recipe for "Tropical Lemon Pudding" given by a national trade paper. It is stated that this product, in which glycerine is an important ingredient, "should keep for as long as two years in good condition". 690

Ammoniated Beet Pulp

Beet pulp treated with ammonia has been used as a feed for calves with satisfactory results. Calves fed this as the sole source of nitrogen were all accepted by government inspectors when slaughtered in a regular commercial establishment. 691

Vegetable Oil Preserves

The addition of small amounts, up to 10 percent, of vegetable oil to an animal shortening such as lard, will improve the keeping quality because of the naturally occurring antioxidants of the vegetable oil. Small quantities of animal fats have been added to the vegetable shortenings to improve flavor or consistency. From a commercial standpoint, at the present time, it is particularly advantageous to use the animal base blend. The common vegetable oils, cottonseed, corn and soybean, as well as wheat germ oil, are most desirable for this purpose. 692

New Synthetic Detergent

A synthetic detergent has just been developed for use as an ingredient in an all-purpose soap supplied to the Armed Forces. It is a sodium salt of sulfonic acid derivatives of aliphatic and alicyclic hydrocarbons. Mixed with other soap constituents in about a proportion of one to two, it gives an all-purpose detergent that will remove dirt, oil and grease in any kind of water, salt or fresh, cold or hot, hard or soft. After the war, variations of this formula will be available in products for household use. 686

Agricultural Insecticide

A new agricultural insecticide has been under recent test and it is indicated that by its use it is possible to increase potato yield by as much as 25 to 100 bushels per acre. The product is also said to be effective on tomatoes, celery and fruit. In application, it is sprayed on the ground from which it is absorbed by the plants, building up their resistance both to insect and fungus attacks. The new product has as its active ingredient, diethylene-sodium-bisdithiocarbamate. 687

Oil-Reduced Red Lead Paint

Government restrictions on the sale of straight linseed oil and on the manufacture of structural metal finishes containing more than 3.75 pounds of oil per gallon have made it necessary for users of metal protective paint to revise the mixing formulas they have long been accustomed to follow when thinning paste or dry red lead, as well as the specifications employed when purchasing ready-mixed pure red lead paint. An article is available as to how these formulas and specifications may be modified to insure the procurement of paint not only conforming to the objectives of the government's oil conservation program, but also retains good brushability, adhesion, durability and other desirable pure red lead paint qualities. 688

Sweet Clover Chemical

A strange preparation, found in spoiled sweet clover, is named as a possible material for checking thrombophlebitis, a distressing complication which sometimes follows surgery, infection or a prolonged illness. As a pre-operative chemical, it has been clinically administered with striking results to 624 patients. Its true test comes in the action upon the circulation proper. 689

THE ARISTOCRAT of packaging—the Can—is grateful to the other packaging materials for their ready assistance in helping get civilian goods to market... while the Can itself has been enlisted for multiple war services.

King Can trusts that wartime research on canning will lead to more durable, lower-cost packaging for those peacetime goods which should have the convenience, protection, disposability and other qualities that the Can can best provide.

NATIONAL CAN

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Glutenous Grain

A new kind of grain, a variety of Chinese corn, is being processed for such uses as paper box, paper tubes, gums and liquid glues, paper coating and calendar work, laminating adhesives and other commercial applications. Its gels are long and gummy, remain in fluid condition and do not tend to revert to paste. 693

Cherry Processing

When sugar is incorporated into cherries by a slow osmosis at very low temperatures, the natural color, flavor and texture are preserved. After removal from cold storage the sealed containers are heated rapidly to present development of undesirable flavors by enzymic action. 694

V — Vegetables

A number of new varieties of early ripening fruits and vegetables have been developed by the experiment stations to extend the canning season in our northern states. Particularly valuable have been early tomatoes produced in Michigan and New Hampshire, and several strains of corn grown last year in Maine. But the surprise has been a tomato developed to meet the needs of the short growing season in North Dakota. This also flourishes under subtropical conditions and is providing Hawaiian growers with a productive tomato. The matter-of-fact report does not say who ever thought of trying it there. 695

Combine Rice

Rice has been added to the list of foods harvested by combine, instead of by the use of binders and threshers. The change cuts the number of men required from 30 or 40 down to a crew of eight for 20,000 barrels of rice. The difficulty in using combines has been due to the high moisture content of the rice at harvest time, with resultant trouble in storage and loss of milling quality. The problem has been solved by the development of simple farm unit dryers for treating the combined rice before storage. 696

Flavor Retention

Volatile flavor-giving materials of coffee, lost in the usual roasting process, can be preserved by a series of treating and roasting steps which particularly avoid oxidation, as well as loss of essential oils. The coffee is treated in a sealed container, first under reduced pressure at relatively low temperature to remove occluded oxygen, air and moisture, and then at the usual roasting temperature under an atmosphere of carbon dioxide at normal pressure. The improvement will be maintained for two or three weeks without special protection, but the best flavor can be maintained indefinitely only by vacuum packing. 697

Technical Topics

NEOSTIGMINE—Has been found advantageous in the treatment of rheumatic arthritis through its action of relaxing muscle spasm. A report of investigations revealed that the drug had no demonstrable effect on pain produced by joint lesions; both active and passive motion in the affected joints is more easily carried out with less pain. 698

ANHYDROUS — Hydrogen chloride in anhydrous form is produced by simplified processes described in two recent American patents. In one method, aqueous hydrochloric acid is contacted in a vertical tower with lump calcium chloride, with the anhydrous gas being removed from the top of the tower. In the other patent, the anhydrous material is liberated from solutions of commercial hydrochloric acid by the action of chlorosulphonic acid. 699

DIAMINES — Disecondary diamines of sufficient purity for the production of synthetic fibers can be obtained in good yield, according to a recent United States patent. The method, based on derivation from organic dihalides, is claimed to make available certain diamines not heretofore manufactured, and others in much better yield and purity than heretofore possible. Improved types of fibers of the linear polyamide type may result from the new basic materials, it is pointed out. 700

"BIN-BURN" RETARDANT — Ethylene gas has been found suitable for retarding "bin-burning" of wheat having a high-moisture content, in recent investigations in a grain-belt college. The gas, at a concentration of approximately one part in 10,000 of air in the storage bin, was blown in while the wheat was being stored. Wheat so treated maintained a temperature below 103° F. for several days, while untreated wheat stored at the same time reached a temperature of 110° F. and was damaged considerably. 701

OIL LOSS REDUCED—Ammonia treatment of cottonseed prior to storage has been found valuable in reducing the loss of oil in damp cottonseed, caused by the formation of excessive amounts of free fatty acids. The treatment, developed by agricultural chemists, offers the possibility of extending the cottonseed crushing period into the rainy season of late autumn and early winter. 702

AVOID "OFF" FLAVOR—Ethyl gallate, dihydroxynaphthalene, and guaiacum resin incorporated into dried pork in small amounts have been found useful in retarding the development of "off" flavors due to oxidation of the fat, when the meat is stored in non-airtight containers. 703

EMULSI-STABILIZER—Sodium carboxymethylcellulose is now being offered in experimental quantities as a potential emulsifying agent and stabilizer. Suggested applications are for thickening textile printing pastes, to emulsify emulsion paints and lacquers and to provide a protective colloid for oil-in-water emulsions. It is supplied as a white, granular powder, odorless, tasteless and readily soluble or dispersible in water. 704

WOOL PROCESS—Carbon dioxide in solid form and sodium hypochlorite are employed in a process developed to reduce the tendency of wool and wool fabrics to felt and shrink, described in a recent British patent. Treated material, it is claimed, in addition to having good anti-felting properties and color, is remarkably free from degraded fibers and shows excellent uniformity of treatment. 705

PROTECTIVE COATINGS FOR FRUITS —An interesting use of soap in connection with the conservation of our nation's food supply is evidenced in a recent patent which suggests a method for preventing the formation of insoluble soaps on the fruits in areas where only hard water is available. This improvement consists of dissolving sufficient sodium hexametaphosphate in the soap-containing emulsion of waxy material to prevent the precipitation of insoluble soaps when protectively treating fresh fruit. 706

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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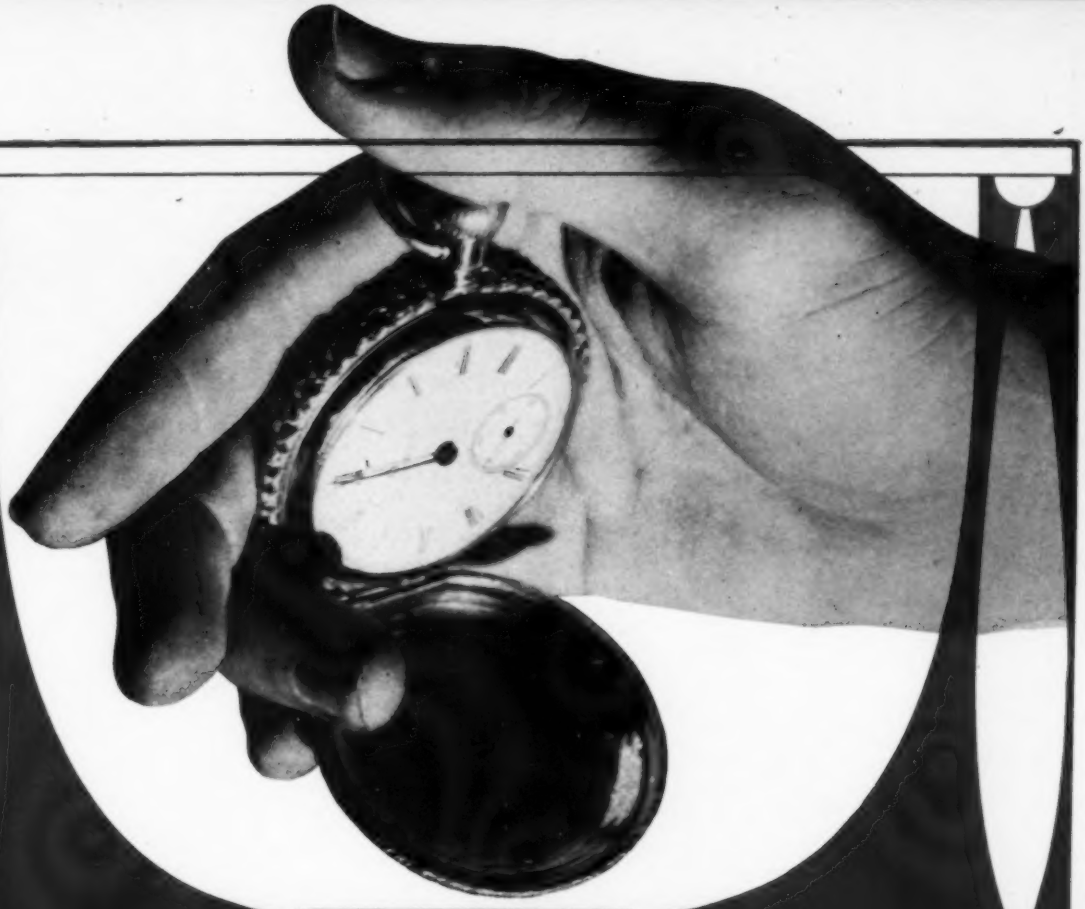

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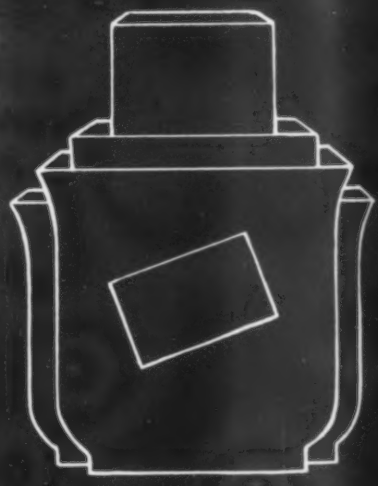

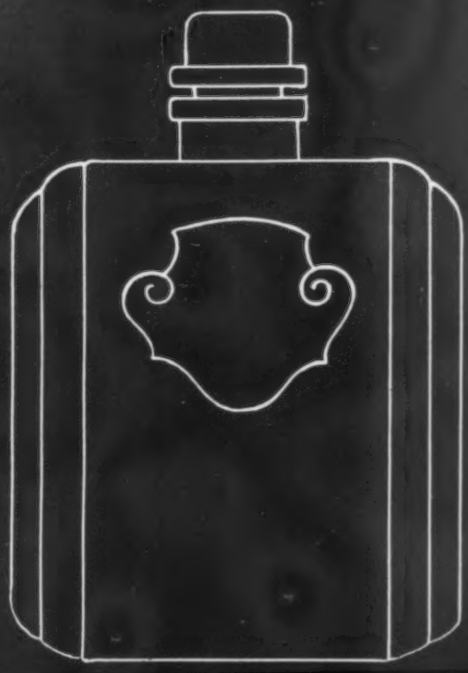

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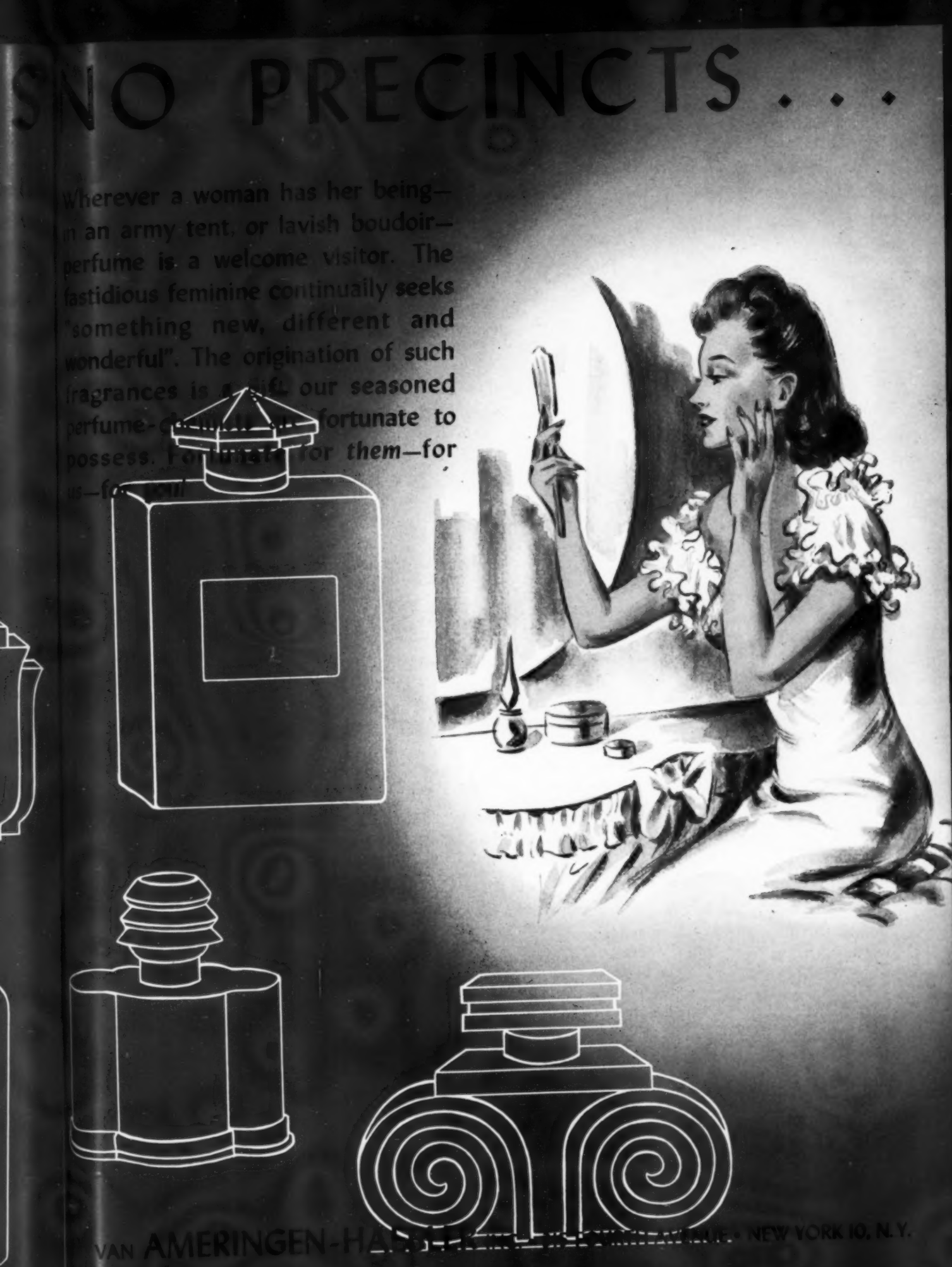

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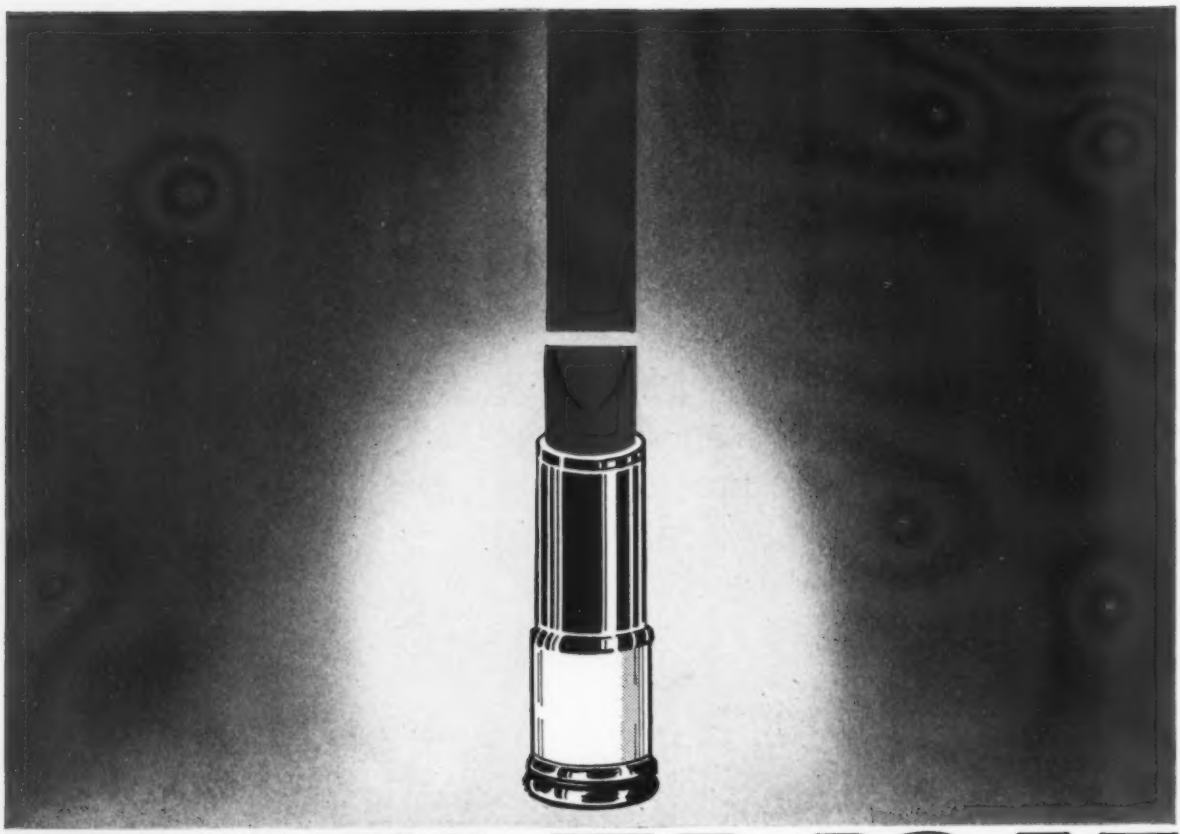

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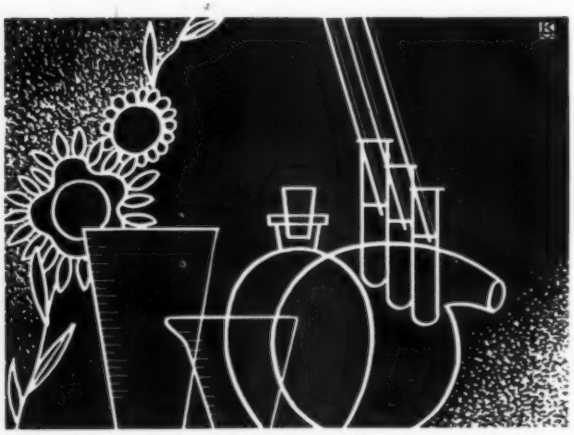
Famous Schimmel synthetics are not hasty developments made under the stress of emergency.

The Schimmel laboratories have always specialized in synthetics and were the first to synthesize many an important oil.

We can offer sure assistance to the manufacturer who is faced with the necessity of finding substitutes for products he never expected to do without.

Should your problem be the replacement of a floral oil, aromatic base, or essential oil, communicate with us.

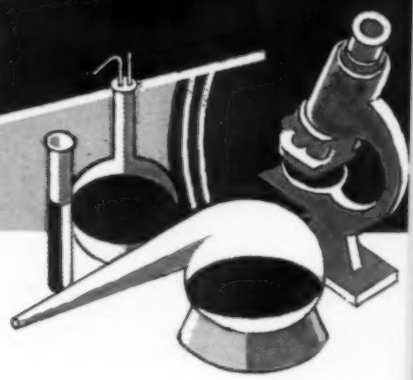


Schimmel & Co., Inc., 601 West 26th Street, New York 1, N. Y.

The Mark of Merit in
COLD PERMANENT WAVES

TYO
TRADE MARK

INGREDIENT



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ONLY ONE IS "TOPS"...

In any field there can be only one leader. In cold permanent waves TYO leads the rest. TYO (U. S. Patent No. 406038)—made only by MARTIN LABORATORIES—is the *original* and *superior* basic ingredient for cold wave lotions. There is only *one* TYO, only *one* MARTIN LABORATORIES, not connected with any other firm. For your protection, be sure you get the laboratory-tested, salon-proven, *genuine* TYO, with these important properties:

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NOW AVAILABLE FOR YOUR CONVENIENCE

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Complete, ready to use
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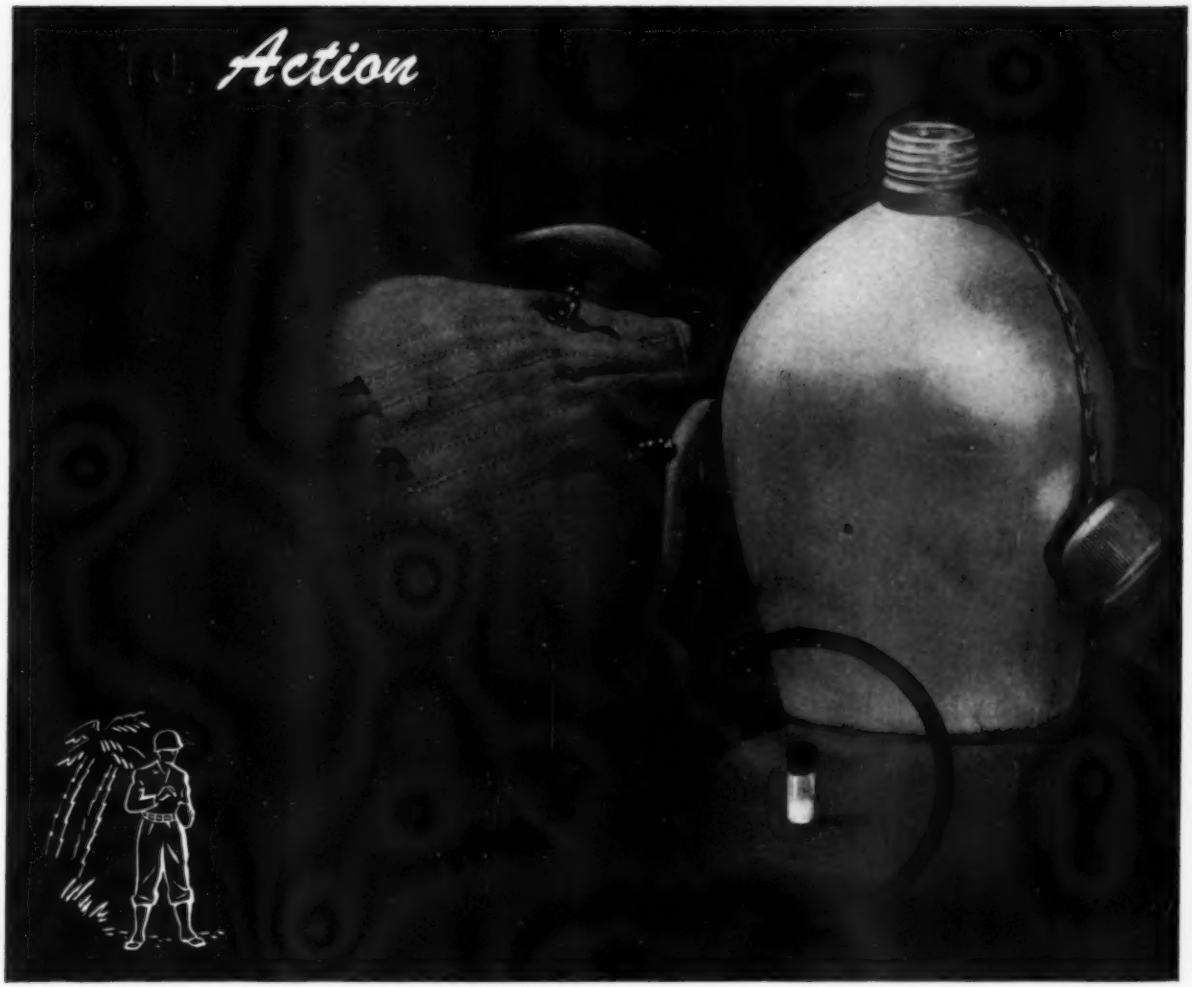
135 COMMISSIONERS ST., WEST, MONTREAL
ENGLAND: 17 CREECHURCH LANE, LEADENHALL ST., LONDON, E. C. 3



A tiny glass vial does a mighty big job for our fighting men. Its contents, dropped into a canteen of water from swamps, ditches or other questionable sources, kill all disease-producing organisms in the water without adding odor or taste to it. These Shell Vials are but one of the many types of essential Kimble Glass Containers. ★ Critical drugs and pharmaceuticals . . . life-saving and pain-relieving materials . . . could never be effective without the glass containers that carry them to the point of action.

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FOR INDUSTRY, TOO!

"K" RATIONS for industry? Long before war-time shortages spotlighted attention on emergency replacements for Essential Oils and Flavor and Perfume Oils originating in lands under enemy control, MM&R was producing, and many an economy-minded manufacturer was using, MM&R REPLACEMENTS.

Today, many more oils than ever before carried the "Made in U.S.A." label are being produced in large quantities here, while the odor, flavor and characteristics of numerous others have been matched, *through scientific manufacture,* in the MM&R laboratories to enable American industry to maintain product flavor and odor identity.

In this and a hundred other ways, MAGNUS, MABEE & REYNARD, INC. is serving American industry and America's sons at war. MM&R Essential Oils, *the very same pharmacists use in compounding doctors' prescriptions,* serve wherever America's fighting men go.

MM&R Flavor Oils add good taste; *flavor everything from tooth paste to lipsticks.* MM&R Perfume Oils provide odor personality to a host of products, while MM&R Deodorants neutralize the undesirable odors of many basic ingredients.

MM&R can be of service to you in solving, perfuming and flavoring problems for products of today . . . *and tomorrow!*

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CONCENTRATED FLAVORS
PERFUME OILS
ODOR NEUTRALIZERS

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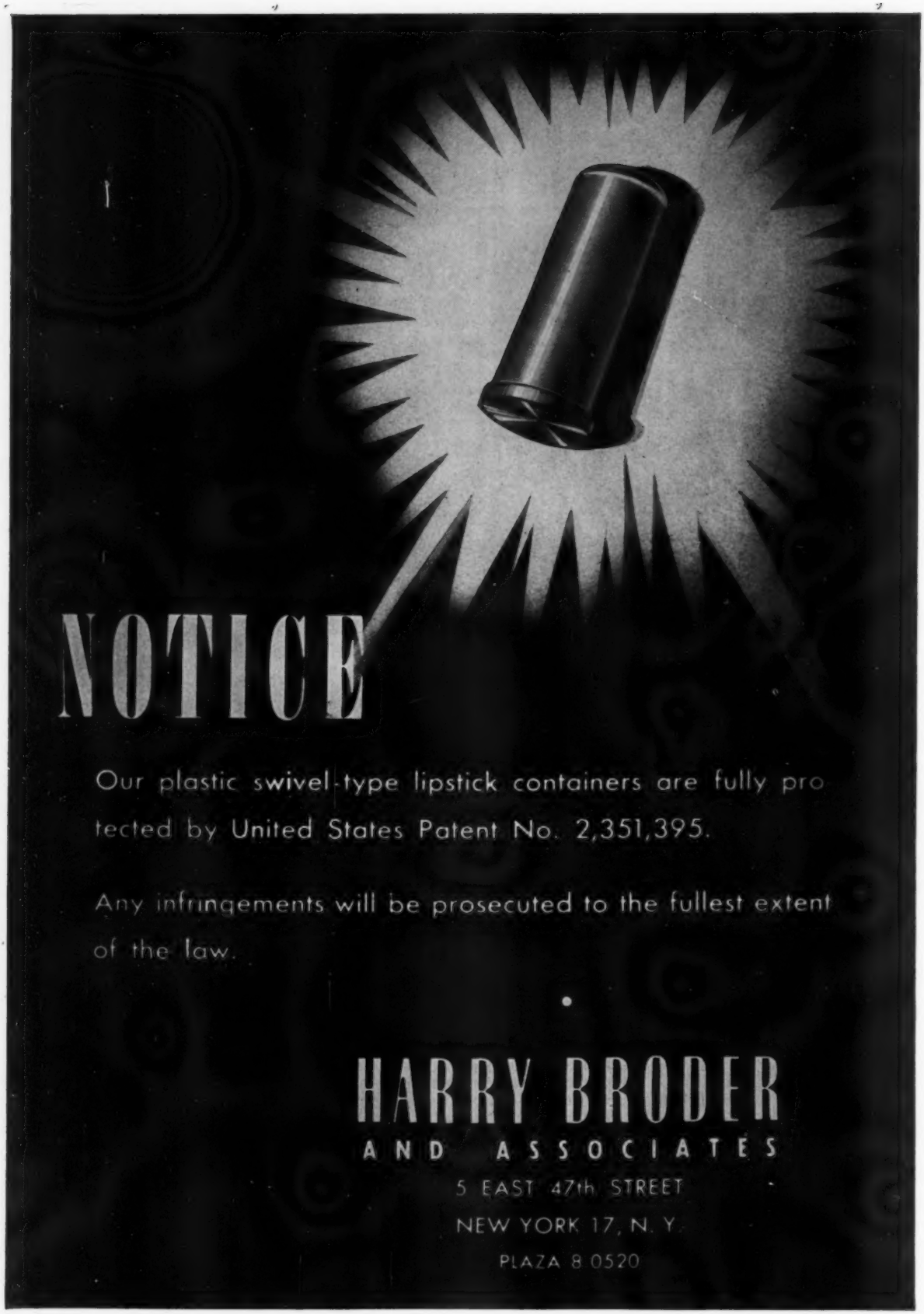
NOTICE
Our plastic swivel-type lipstick containers are fully protected by United States Patent No. 2,351,395.
Any infringements will be prosecuted to the fullest extent of the law.
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AND ASSOCIATES
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Swivels..

ILLUSTRATIONS ACTUAL SIZE

Push-ups..

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MEET POST-WAR PRODUCTION PROBLEMS

WAR PRODUCTION is still urgent, still our first job. Our second job in meeting civilian needs in the field of research, formulation and production, leads to our third job of looking ahead.

PROFITABLE OPPORTUNITIES lie ahead for the manufacturer who will be ready to supply post-war markets, when the floodgates of pent-up demand burst wide open.

AS PRIVATE LABEL manufacturers, EVANS CHEMETICS with its extensive manufacturing facilities, is equipped to cooperate with you in your present and post-war production plans.

Buy War Bonds NOW!

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For your English post-war production

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Fashion Forecast

POST WAR planners in the cosmetic industry look for a great fashion revival. They know that *Nail Enamel* will be in the lead in fashion cosmetics.

Durlin's laboratory and factory have been busy with war work and in giving every possible help to *Durlin* customers. But we have never lost sight of the great opportunities that new technical developments will open for cosmetic manufacturers in *Nail Enamel.*

It's never too early for planning. Be ready for an eager market on *Durlin Nail Enamel.*

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Foremost Name in Bulk Nail Enamel

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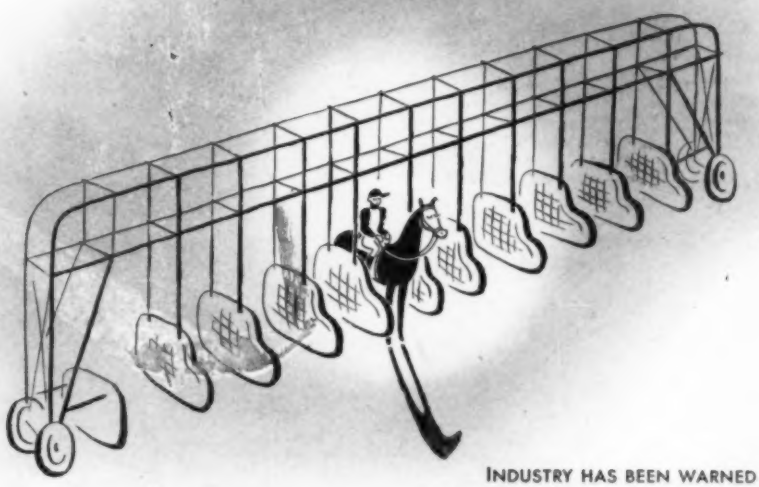
Manufacturers of Aromatic Chemicals, Perfumes and Essential Oils

BRANCHES IN PRINCIPAL CITIES

DONT BE LEFT AT THE POST-WAR PLANNING



INDUSTRY HAS BEEN WARNED by Jesse Jones, U. S. Secretary of Commerce, that the war may end suddenly and business should, therefore, be preparing now for the Post-war period.

The Committee for Economic Development reports that cessation of hostilities in Europe will release 80% of the nation's war production capacity for reconversion for civilian use.

Mr. Jones' warning and the report of the Committee for Economic Development should serve as a double spur to all Post-war thinking. When restrictions are lifted from war-prioritied cosmetic ingredients, don't be caught flat-footed and left at the post.

The merchandising, packaging and production experience and facilities of Allied Products may be a source of guidance at this time for the all-important, fast get-away and quick sales pick-up when war production barriers are raised. Arrangements for consultation can be made at your convenience, and without obligation, at your office or at the Allied Office in the R.C.A. Building in New York City.

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A truly remarkable synthetic version of the natural Parma-Violet note!

This Chuit, Naef specialty embraces all the most desirable characteristics of the ideal Violet basic note. It is non-irritating—*contains no methyl heptine carbonate*—very fresh and tremendously powerful.

PARMANTHEME can be used in any type toilet preparation, being particularly effective in lipsticks, creams and perfume extracts.

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Needle-shaped crystals long recognized by physicians, pharmacists and the public

Needle-shaped crystals, white and sparkling, identify Dow Epsom Salt, U.S.P. This is the distinguishing form long recognized and widely accepted by physicians, pharmacists and the public.

The trade knows it can rely upon the uniformity of Dow Epsom Salt, U.S.P. This important characteristic is the result of a process developed by extensive research and long experience in meeting the needs of pharmacists and the profession. As a final check, no packaging of Dow Epsom Salt, U.S.P., is done until each batch has been thoroughly tested.

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Chemicals

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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

yes, MERCK is MAKING

"DDT"

(dichloro-diphenyl-trichloroethane)

the Remarkably Effective Insecticide

BUT OUR PRESENT LARGE-SCALE PRODUCTION IS EXCLUSIVELY FOR THE ARMED FORCES

Early this year, at the request of the Government, Merck & Co., Inc. began expanding its facilities for increasing tonnage production of the powerful insecticide known as "DDT" which now is being used by the Armed Forces to protect them from Typhus fever, an infectious disease caused by the bite of the typhus-infected body louse.

Used by the Army Medical Department on a mass scale in the North African and Italian campaigns, "DDT" proved more effective against body lice than any insecticide previously employed. Dusted into the clothing in the form of a powder, a single application provides anti-louse protection for a month.

Chemically known as dichloro-diphenyl-trichloroethane, "DDT" also is highly effective against flies and other insects which are a menace to humans, animals, and plants, and thus has numerous possibilities for postwar use in various fields.

Although Merck has, for many years, been producing one of the basic chemicals now employed in making "DDT," our total production of this powerful insecticide will, for the present, be devoted exclusively to the Army and Navy.

Until further notice, and because our entire supplies are controlled by the War Production Board, we are unable to accept direct orders for "DDT" from our regular or potential customers. However, when we are in a position to do so, we will advise you accordingly and gladly cooperate with you in developing practical uses for this very promising product.

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YOU SHOULD INVESTIGATE THIS REMARKABLE WAX. IT CAN BE USED IN ANY PROPORTION WITH GENUINE BEESWAX, OR IT WILL REPLACE CRUDE, REFINED, AND BLEACHED BEESWAX IN THE MANUFACTURE OF ALL KINDS OF PASTE WAXES AND POLISHES, OINTMENTS, CREAMS, EMULSIONS, SOAPS, GREASES, RUBBER, INKS, TEXTILE AND LEATHER TREATING, COATINGS, ETC.

SPECIFICATIONS ARE ALMOST IDENTICAL TO U.S.P. QUALITY

Acid Value—19.6
Saponification No.—95.3
Ester No.—75.7
Ratio—3.9
Melting Point—149° Fah.
Homogeneity—Uniform
Emulsifying Properties—Excellent
Stability—Excellent
Color—Pale Yellow
Sediment—None
Non-Toxic
Non-Rancid

Price 26½c per pound F.O.B. our factory, Brooklyn, N.Y., for prompt and future shipment. Packed in 8 pound cakes in 50 pound cartons.

New!

CARNAUBA EXTENDER

In these days of high prices and scarcity of genuine carnauba wax it will pay you to investigate this new product. It can be used with genuine wax in quantities up to 50%, to manufacture no rubbing water waxes, paste waxes and polishes, emulsions, carbon paper, leather finishes, compounds, etc. Free of sediment and guaranteed not to contain fatty acids or petroleum waxes. A 50/50 mixture of this extender with No. 1 or No. 2 Yellow Carnauba, or refined, or North Country No. 3 Carnauba, will give a melting point only 3 degrees C. under the genuine wax.

Price 52½c per pound F.O.B. our factory Brooklyn, N. Y., for prompt and future shipment. Packed in lumps in bags.

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AND OUR BOOKLET *"Dependable Waxes for Industry"*

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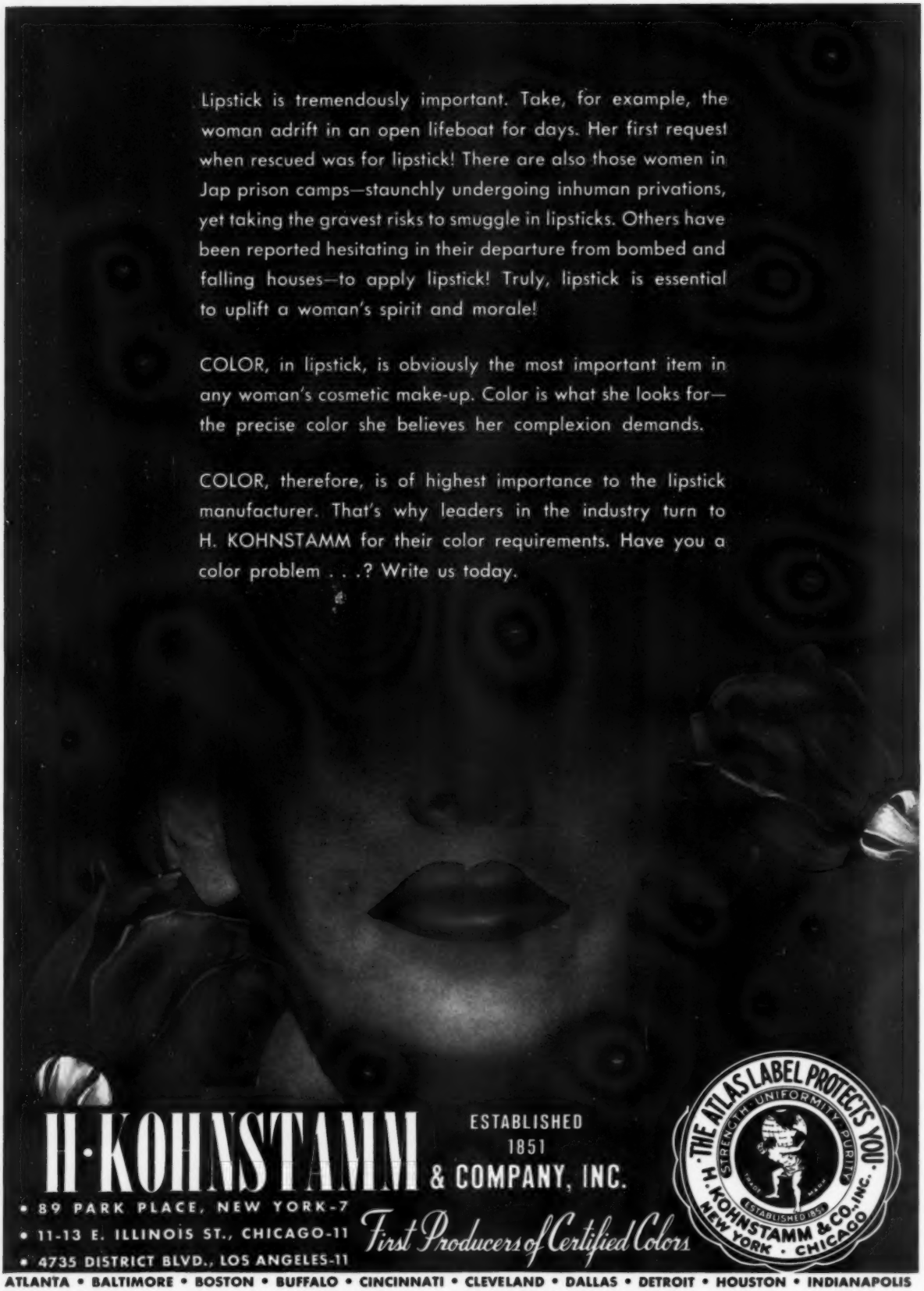
Lipstick is tremendously important. Take, for example, the woman adrift in an open lifeboat for days. Her first request when rescued was for lipstick! There are also those women in Jap prison camps—staunchly undergoing inhuman privations, yet taking the gravest risks to smuggle in lipsticks. Others have been reported hesitating in their departure from bombed and falling houses—to apply lipstick! Truly, lipstick is essential to uplift a woman's spirit and morale!
COLOR, in lipstick, is obviously the most important item in any woman's cosmetic make-up. Color is what she looks for—the precise color she believes her complexion demands.
COLOR, therefore, is of highest importance to the lipstick manufacturer. That's why leaders in the industry turn to H. KOHNSTAMM for their color requirements. Have you a color problem . . .? Write us today.
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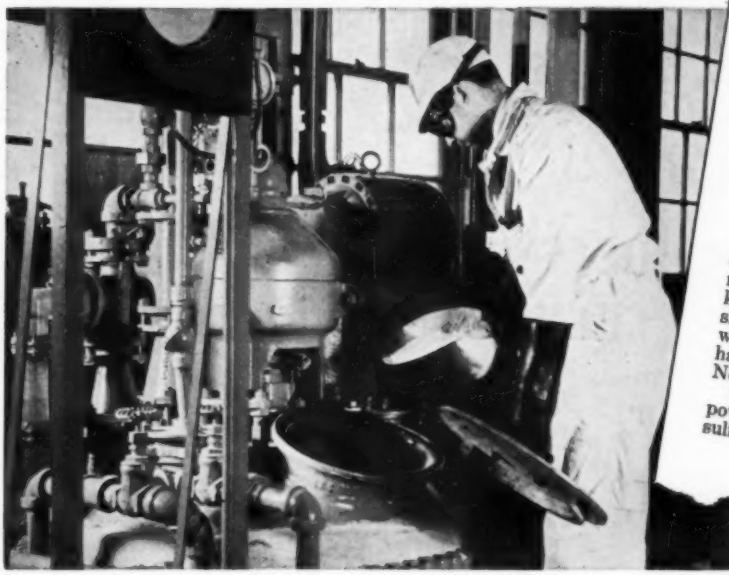
Pharmaceutical Manufacturers:

Newspapers Daily Emphasize Sulfadiazine's Fast-Growing Popularity. Let CALCO Help You Supply This Mounting Demand.



Magic of Sulfa Stems Terrors Of Meningitis

Cases Up 1,100% in City in 2 Years, but Mortality May Be Less Than 5%

Through the magic of sulfa drugs deaths and permanent disability from meningococcic meningitis, popularly known as spinal meningitis, can be slashed to an incredibly low level, it was learned yesterday when cases have risen approximately 1,100% in New York City in two years.

The latest story of the curative powers of sulfa drugs, particularly sulfadiazine. . .

In CALCO'S large-capacity plants, manufacture of SULFADIAZINE is under rigid quality controls from the first step (see illustration) through every process of quantity production.

Just as the recommendation by the Surgeon General's Office of Sulfadiazine for pneumococcal, streptococcal, meningococcal meningitis and other infections fostered its widespread use among the armed forces, so now its universal endorsement by leading medical and health authorities is opening up big, new demands for this famous sulfa drug through normal pharmaceutical outlets.

Happily, CALCO'S mounting production capacity now permits the offering of Sulfadiazine to ethical pharmaceutical manufacturers generally in quantities to meet the needs of this rapidly-expanding civilian market.

Do you, too, see the opportunity for increasing sales and profits in the marketing of Sulfadiazine? If so, we suggest you talk over your requirements with CALCO right away.

Ask About These Other Available CALCO Products:

Sulfapyridine U.S.P.
(and Sodium Monohydrate)
Nicotinamide U.S.P.
Nikethamide
Sulfanilamide U.S.P.
Cinchophen N.F.
Neocinchophen U.S.P.
Sulfathiazole U.S.P.
(and Sodium Monohydrate)
Mandelic Acid U.S.P.
Methylene Blue U.S.P.
(Powder—Crystals)
Calcium Mandelate U.S.P.
Glutamic Acid HCL
Calcium and Sodium Pantothenate
2-Methyl-1, 4 Naphthoquinone
Phenothiazine
(For Veterinary Use)
Certified Colors for Pharmaceutical and Cosmetic Use

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CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY
BOUND BROOK — Calco — NEW JERSEY

Sulfur Compounds

from CARBIDE AND CARBON CHEMICALS CORPORATION

1 KROMFAX SOLVENT (Thiodiglycol)

$HOCH_2CH_2SCH_2CH_2OH$

Boiling point (50 mm.)	194°C.
Water solubility	Complete
Appearance	Almost colorless liquid
Odor	Mild
Availability	Commercial quantities

Kromfax Solvent has been used for many years as an almost non-volatile solvent for basic, acid, and vat dyestuffs. It is specially suitable for pasting difficultly soluble basic dyestuffs in direct printing and in color discharge and resist printing. Since Kromfax Solvent is a glycol and contains two alcohol groups, it may be useful in synthesizing resins and plasticizers.

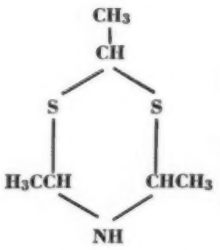
2 MERCAPTOETHANOL (Monothioglycol)

$HSCH_2CH_2OH$

Boiling Point (760 mm.)	157°C.
Water solubility	Complete
Appearance	Water-white liquid
Odor	Hydrogen sulfide
Availability	Research samples

Since Mercaptoethanol reacts both as a mercaptan and alcohol, it should be a particularly valuable chemical intermediate in the synthesis of pharmaceuticals, dyestuffs, rubber chemicals, flotation agents, and pickling inhibitors. Its fatty esters show promise as anti-crosslinking directors in the polymerization of elastomers. Mercaptoethanol is also useful as a sulfhydryl reagent for protein investigation. Certain of its derivatives may be of interest in depilatories and hair-curling formulations.

3 THIALDINE



Melting point	39-41°
Solubility	Slightly soluble in water; soluble in alcohol, ether, and hydrocarbons
Appearance	Colorless, crystalline solid
Odor	Ammonium sulfide
Availability	Commercial quantities

Containing both sulfur and nitrogen in the ring, Thialdine is a promising heterocyclic intermediate. The odor of its salts is less than that of the free base. Manufacturers of dyestuffs, insecticides, pharmaceuticals, and rubber chemicals should investigate this unusual chemical, available for the first time in commercial quantities.

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Unit of Union Carbide and Carbon Corporation

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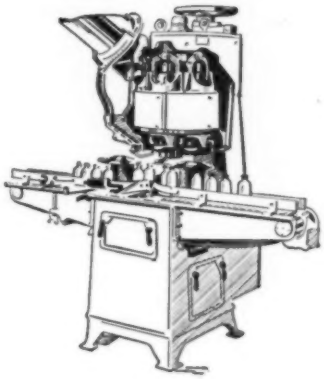
AROMATIC CHEMICALS, ESSENTIAL OILS, OLEORESINS, ETC.

Fire both barrels to brinq down costs

There is every indication that, as time goes on, you will have to draw a sharper bead on costs in order to make your P. & L. statement come out in the black. It's the one way of holding the line on prices and still making a profit.

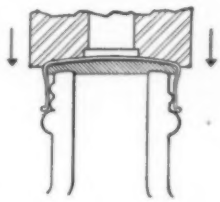
Alseco Seals and Sealing Machines might very well be one means of bringing down your costs. They've done it for others. Whether a more efficient sealing operation is of immediate concern or a postwar goal, this is a good time to get facts.

MACHINES



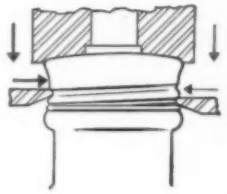
Fast, efficient sealing helps the cost sheet. Alseco machines like this seal as many as 240 bottles per minute, unattended except for filling the hopper. They're smooth-running, trouble-free.

METHOD



Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



The Alseco Rolled-On method means each seal fits its own particular bottle. Ends leakers and breathers. Cuts down rejects and returns. Easy to remove and replace. Extra protection for product.

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Over 90 different products with many physical forms and grades for efficient use.

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Over 30 standard and special salts with many different meshes, bulks, etc. for every purpose.

*Since Bismuth Compounds are on allocation, it is necessary to file with the W.P.B. for quantities in excess of 25 pounds per month. We shall be glad to forward copies of the W.P.B. forms and we invite you to forward your orders for prompt delivery of MALLINCKRODT BISMUTH COMPOUNDS.

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STEARATES

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Ammonium, Calcium, Magnesium, Potassium and Sodium Sulfites; and Potassium and Sodium Meta-Bisulfites. Uniform and stable with high SO_2 content.

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KEEPING POSTED

The Supply of Pharmacists

BY THE end of 1945, there will be a shortage of at least 6,500 pharmacists, according to James C. Chilcott, president of Maltine Company, who spoke for the National Pharmacy Committee at the meeting of the American Pharmaceutical Manufacturers Association. Among the reasons for the growing scarcity of pharmacists are: approximately 14,000 pharmacists have entered the Armed Forces, and less than 10,000 of them will return to pharmacy not taking into consideration the large number of practicing pharmacists who will remain with the Army and Navy; there is now and will be after the war a greater demand for pharmacists in rehabilitation centers for wounded veterans; there is a greater demand for hospital pharmacists because of the increased demand by the public for hospital services, and this demand will increase after the war when new hospitals now under construction are completed; more pharmacists than ever will be employed by drug and pharmaceutical manufacturers because of the greater demand for therapeutic agents, the accelerated research program, and new developments popularized by their effective use in the Armed Forces; the sharp drop in college enrollmemts is resulting in a supply of new pharmacists less than 15 per cent of replacement needs.

Further facts from the committee show that in 1940 there were 82,000 practicing pharmacists, of which 72,000 were in retail pharmacies, 5,000 in manufacturing, 3,000 in hospital pharmacies, 1,000 in teaching, publishing, and research, 1,000 in national and state service. Since 1940, more than 8,000 drug stores have been closed, with a total of 10,000 expected to be closed by the end of 1944, in the face of a 10,000,000 population increase from 1930 to 1940. Since 1940, the number of licensed pharmacists in hospital pharmacies has increased from 3,000 to 4,000, the additional 1,000 coming from drug stores. Student enrollments have dropped alarmingly from an average of 8,000 to 7,000 in the Fall of 1943, 4,300 in the Spring of 1943, 3,600 in the Fall of 1943, 2,700 in the Spring of 1944. Only 800 pharmacists will be graduated in 1944, and between 200 and 300 can be expected to be graduated in 1945 and the succeeding years until the end of the war. It was estimated in prewar years that a minimum of 2,130 new pharmacists was required each year.

Record Alcohol Production

ALCOHOL production during the first quarter of the year totaled 192,200,000 gallons, compared with 137,400,000 gallons for the same quarter of 1943. Estimated production for 1944 is placed at 612,400,000 gallons, against estimated requirements of 633,900,000 gallons, according to WPB. For 1945, production is estimated at 639,800,000 gallons, against an estimated requirement of 634,000,000 gallons. Revised estimates of requirements in terms of millions of gallons of 190° alcohol for 1944 are: Synthetic rubber 365, direct military and Lend-Lease 78.6, indirect military and civilian 160.3, anti-freeze 30. For 1945 requirements are: Synthetic rubber 365, direct military and Lend-Lease 89, indirect military and civilian 160, anti-freeze 20.

The alcohol-from-potato program, which wa established to furnish an outlet for surplus potatoes from the 1943 crop, has been completed, with 300,000 gallons of alcohol being distilled from 3,200 tons of dehydrated potatoes which had been obtained from 19,200 tons of raw potatoes. Government officials feel that the alcohol stockpile can now be revised downward. The stockpile, formerly estimated as safe at 100,000,000 gallons, is now about 86,000,000 gallons.

Castoria Returns

FLETCHER'S Castoria—off the market since May 4, 1943, following the unfortunate occurrence which resulted in a contaminated product—has returned to market and for the last month and a half retailers have been receiving their initial shipments. To be more certain that nothing happens to the product in the future, the number of tests made has been increased from 56 to 138. Also control numbers for separate batches now appear on all labels of the product. The 138 tests start with the raw materials, going through each step in production and including biological and bacteriological testing. A distinctive green band distinguishes the new product from the old.

THE UNIVERSITY LIBRARIES OF GEORGIA

The Tariff Problem

WHILE many are interesting themselves in building up export markets as a means of keeping our national income at a point which will prevent unemployment after the war, the American Tariff League is attempting to convince the nation that protection of domestic producers against foreign competition in this country will be best for us in the long run.

DuPont's Dr. Elvin H. Killheffer, executive committee chairman of the American Tariff League, told the Economic Leadership Conference recently that United States tariffs are among the lowest trading nations, and that United Kingdom, Germany, Switzerland, Italy, Spain, Turkey, Greece, Hungary, Mexico, Egypt, Brazil, and Argentina all have higher tariffs and pay lower wages.

"Full employment of our people cannot be provided in a few lines where no tariff protection is needed. Even if jobs could be supplied for everyone now in protected industries, it would not be advisable for reasons of national security. Had we followed that advice before the war, how could we have become the arsenal of democracy? The very multiplicity of productive lines is what made that possible." There is lively propaganda going on here and abroad, he said, calculated to obtain further reductions in tariffs.

"We must not forget," he continued, "that while there will be some delay in rebuilding the destroyed industries of occupied nations, the United States and United Kingdom will be helping to rebuild them and the new plants will be the most modern obtainable, with equipment and much 'know-how' furnished by the suppliers."

At the same meeting, Senator Burton K. Wheeler warned against adoption of any policy, foreign or domestic, which would lower American living standards. Said Senator Wheeler: "If we reduce living standards appreciably here, we only jeopardize the national well-being of our population, but bankrupt our Government. I should like to impress upon you as forcibly as I can that dictators are but the trustees of bankrupt nations."

Hospital Insurance Facts

IN VIEW of the attempts to develop insurance plans for payment of the costs of medical care, the announcement of the Associated Hospital Service of New York regarding its progress is interesting. Enrollment in the plan now totals 1,500,000 people, against 1,325,000 a year ago. These people are residents of the Metropolitan New York area which includes all five boroughs of New York City, Long Island, Westchester County, the Mid-Hudson districts, and nearby parts of New Jersey and Connecticut. Two hundred public and private hospitals in the area are cooperating with the service. During the past year, 120,000 hospital bills were paid, or 500 bills per day, meaning that a member entered a hospital every four minutes. Of those who selected semi-private care, 92 per cent had their entire hospital bills paid. Of those entering hospitals, 75,000 were women, 25,000 were men, and 20,000 were children. Members were scattered in hospitals throughout this country, in China, South America, and other parts of the world. Of every subscription dollar, 76.14 goes into hospital bills, 10.21 per cent into general reserves, 9.26 per cent into salaries, and 4.49 per cent into other expenses. Assets as of December 31, 1943 were $11,485,070.82; liabilities and reserves, $6,956,252.02; and surplus $4,528,818.80.

Imported Lemon Oil Again

LEMON oil is again to come to this country from Italy and the OPA has named ceiling prices on the product. The Government agencies that import the oil are to charge dealers $2.925 per pound, and the dealers are permitted to resell the oil at $3.25 per pound in bulk quantities of 25 pounds or over. This price is the same as is in effect for domestic lemon oil. The OPA states that most sales will be to industrial users for a flavoring ingredient. Lemon oil is to be imported by the Government to supplement the domestic supply, and will be allocated for sales by one or more Government agencies. Late last month 100,000 pounds of the oil arrived in this country.

Ethical and Proprietary Vitamins

RECENTLY we were told by a man in a position to know that one of the ethical drug manufacturers sold a greater volume of vitamin products than the total sales of the four most widely advertised vitamin products that you hear about over the radio, and read about in newspapers, magazines, and car cards. Also we were told that second at least from dollar volume was another ethical manufacturer. This rather astounded us, but the more we thought it over the more we arrived at the conclusion that the doctors—the very people who shout and holler that the vitamin business is a racket and that vitamins are being taken by many people who have no need for them—must be mainly responsible for the great consumption of vitamin products today. Certainly when a company which does not advertise to the public and relies solely on the doctor's recommendations for the promotion of its products, outsells the combined volume of four manufacturers who are blatantly promoting their products directly to the public, the doctors must be responsible.

Another interesting point in connection with this condition is that the ethical manufacturer in question has never been a house to market any product on a price basis and his products are more expensive than the proprietary products offered. Also the relative position of at least two of the ethical houses in the market tend to indicate that when ethical and proprietary products are composed of the same things—and are understood by the public to be composed of the same things—the public will buy from the ethical house. Is the result of confidence built up in a label by doctor recommendation so great that it can overcome the effect of all manner of advertising to the public?

Gift Set Discounts

OPA has amended the gift set pricing provision of MPR 393. The amendment provides that where packagers of gift sets customarily sell these under a system of trade discounts different from the system used in selling individual items, they may use such discount schedules in pricing new gift sets rather than the schedule on individual items.

Relief from Soap Restrictions

RELIEF from restrictions surrounding the production of soaps has been afforded in three ways. First, War Food Order 86 has been amended by the deletion of paragraphs b, c, and d, to the effect of relieving soap manufacturers of the necessity of using special formulas containing additional rosin for the manufacture of soap. Second, General Preference Order M-11-a covering zinc oxide has been amended by adding toilet soap to the list of products in which zinc oxide may be used. And third, War Food Order 42 has been amended to permit unrestricted manufacture of abrasive hand soap, production of which was formerly restricted to 150 per cent of the base period.

Contributions to Pharmacy

THREE hundred drug firms have contributed $485,000 to the American Foundation for Pharmaceutical Education. Pharmaceutical manufacturers have contributed 50 per cent of this amount. Other contributors are: Proprietary medicine manufacturers 15 per cent, retail and chain drug stores 12½ per cent, members of the National Wholesale Druggists Association 12½ per cent, manufacturers of sundries, cosmetics, etc., 6½ per cent, miscellaneous 3 per cent.

The purpose of the Foundation is to have a five year program for $5,000,000, according to Edward S. Rogers, chairman of the board of Sterling Drug, Inc., who says: "But while the war continues, about all that can be done is to relieve the desperate situation of the colleges. Of the 64 accredited colleges of pharmacy in the country, 17 are facing a new deficit, totalling $203,000, as a result of the war." The Foundation has made $100,000 available to give immediate assistance to these schools. Over $62,000 of this sum has already been expended.

Face Powder Boxes

DR. P. B. DUNBAR, Commissioner of Food and Drugs, has started an aggressive campaign against deceptive face powder containers. In connection with this drive, Dr. Dunbar has written to the Toilet Goods Association advising them of the official viewpoint surrounding such containers. Because it was claimed by manufacturers that the user of the small face-powder container usually wished to insert a powder puff after purchasing the article, the Food and Drug Administration stated that the space allowance should be only sufficient for a thin puff. However Dr. Dunbar now states:

"Recently we have observed face-powder boxes, particularly sizes larger than the ten-cent size, where the space allowed was quite unreasonable and obviously the container was not designed for a thin puff. Also we have received information that puffs are seldom placed in these boxes and that the package is not carried around like a compact. Even if the purchaser should desire to place a puff in the box at home space allowance would be unnecessary since there would appear to be no objection to a slight elevation of the lid under the conditions of use. In many cases the manufacturer has tried to justify an excessive space for powder puff by placing *inside* the lid some statement such as: 'Extra space has been allowed in the cover of this box for your powder puff.' We have recently observed several face-powder boxes with tight-fitting covers and no space allowed for the puff."

Employees 95% Physically Handicapped

A FIRM in which 95 per cent of the employees are physically handicapped, was recently awarded the Army-Navy "E" Award. Two deaf mutes, a blind man, and a one-armed woman stepped forward on June 27 to receive the award for G. Barr & Co., manufacturing chemists who manufacture Balm Barr skin conditioner and other cosmetics and pharmaceuticals. George Barr, the founder of the company, who is minus one leg himself, knows the problems which physically handicapped people face in finding employment. Therefore, he has been fitting these people to their jobs with excellent results. Some of his employees are so badly maimed they had almost given up hope until they found employment with Barr. Mr. Barr's first employee was deaf, and between them they worked out a plan for putting disabled people to work on the basis of building the job around the man. The company now has a $5,000,000 backlog of orders. The Army considers the company record to be of great significance, since it points the way to employment of many returning war veterans.

National Formulary Revision

A THOROUGH revision of the National Formulary is under way and will result in the publication of N. F. VIII by the end of 1945. Several drastic changes are beign made such as the use of English instead of Latin for primary drug titles. This action, which overthrows a long-standing tradition in pharmaceutical compendia, was taken as a step toward greater rationality in drug nomenclature. Latin will be retained as the secondary title. Also metric doses will be given greater emphasis. Consideration was given to a proposal to drop apothecaries' doses completely, but it was thought that the trend toward use of the metric system had not yet reached the point where apothecaries' doses could be safely omitted. Standards for enteric coatings will not be developed in time for inclusion in N. F. VIII, but the Subcommittee on Solid Preparations for Internal Use is at work on the project. Another change is that N. F. VIII will be more self-contained, obviating the necessity of looking up information in the Pharmacopoeia in connection with N. F. procedures. Changes in formulas necessitated by exigencies of war will not be included in the regular revision but they will be maintained on a temporary basis in a special supplement to be issued concurrently with N. F. VIII.

Products scheduled to be deleted, and products to be added in N. F. VIII follow. Comments on the adequacy or inadequacy of these lists is invited by the Revision Committee.

Monographs to be omitted:—Adonis, Aletris, Ammonium Hypophosphite, Apocynum, Artificial Carlsbad Salt, Artificial Vichy Salt, Artificial Kissingen Salt, Asarum, Berberis, Blue Flag, Bryonia, Cactus Grandiflorus, Calcium Creosotate, Calendula, Calumba, Camphorated Chloral, Camphorated Menthol, Castanea, Caulophyllum, Celery

Fruit, Chimaphila, Chionanthus, Cocculus, Condurango, Convallaria, Corydalis, Cow's Milk, Crocus, Croton Oil, Damiana, Dental Liniment of Aconite and Iodine Compound, Diluted Hydrocyanic Acid, Dioscorea, Echinacea.

Effervescent Salts: Artificial Carlsbad Salt, Artificial Kissingen Salt, Artificial Vichy Salt, Salts, Salt of Lithium Citrate, Salt of Magnesium Sulfate, Salt of Potassium Bromide Compound. Egg, Egg Yolk. Elixirs: Bismuth, Buchu and Potassium Acetate, Buchu, Buchu Compound, Calcium Lactophosphate, Euphorbia Compound, Gentian and Iron, Guarana and Celery, Hydrangea and Lithium, Hydrastis Compound, Pepsin and Bismuth, Pepsin Bismuth and Strychnine, Phosphorus, Viburnum Opulus Compound. Emulsion of Cod Liver Oil with Egg, Emulsion of Cod Liver Oil with Hypophosphites, Ethereal Tinctures, Euonymus, Eupatorium, Euphorbia Pilulifera, Exsiccated Sodium Sulfate. Extracts: Aloe, Gelsemium, Hydrastis, Sumbul, Taraxacum, Valerian. Fluidextracts: Aletris, Apocynum, Berberis, Buchu Compound, Calendula, Calumba, Castanea, Caulophyllum, Celery Fruit, Chionanthus, Condurango, Convallaria, Cotton Root Bark, Cubeb, Damiana, Dioscorea, Echinacea, Euonymus, Euphorbia Pilulifera, Frangula, Guarana, Humulus, Hydrangea, Jalap, Juniper, Kola, Krameria, Lappa, Leptandra, Oat, Phytolacca, Quassia, Rhamnus Cathartica, Rose, Sanguinaria, Sarsaparilla Compound, Serpentaria, Stillingia, Trifolium, Trillium, Viburnum Opulus, Xanthoxylum.

Fluidglycerates, Frangula, Gallic Acid, Glycerites: Bismuth, Egg Yolk, Pepsin. Guaiacol Carbona, Guarana, Honey of Rose and Sodium Borate, Helonias, Humulus, Hydrangea, Infusion of Gentian Compound, Infusion of Senna with Magnesium Sulfate, Iodine Petroxolin, Kola, Krameria, Lappa, Liquid Petroxolin, Lithium Benzoate, Lithium Carbonate, Lithium Citrate, Lithium Salicylate, Lupulin, Manna, Mitchella, Monobromated Camphor, Oat, Oil-Sugars, Ointment of Mustard, Ointment of Potassium Iodide, Ointment of Zinc Stearate, Orris, Pills: Aloe and Myrrh, Ferrous Iodide, Iron, Quinine, Strychnine and Arsenic, Rhubarb and Aloe. Phosphorated Oil, Phytolacca, Plaster of Cantharides, Potassium Sulfate, Powder of Pancreatin Compound, Pulsatilla, Rhamnus Cathartica, Saccharated Ferric Oxide, Sambucus, Scutellaria, Soluble Ferric Pyrophosphate, Solution of Peptonized Iron, Spirits of Volatile Oils, Stillingia, Styptic Collodion, Sumbul, Suppositories of Boroglycerin, Syrups: Ammonium Hypophosphite, Asarum Compound, Calcium Lactophosphate. Tinctures: Aloe and Myrrh, Antimony, Bryonia, Cactus Grandiflorus, Calendula, Calumba, Capsicum and Myrrh, Cimicifuga, Cocculus, Cubeb, Guaiac, Jalap, Pulsatilla, Quassia, Quillaja, Sanguinaria, Serpentaria, Squill, Viburnum Compound, Fresh Drugs. Trifolium, Trillium, Troches of Elm, Viburnum Opulus, White Sandalwood, Xanthoxylum, Xanthoxylum Fruit.

Proposed New Monographs: Acetylaminohydroxyphenylarsonic Acid (Acetarsone, Stovarsol), Acetylcholine Hydrobromide, Allantoin, Aluminum Citrate. Ampuls: Acetylcholine Hydrobromide, Calcium Levulinate, Indigo Carmine, Iron Arsenite, Iron Cacodylate, Sodium and Gold Thiosulfate, Sodium-Antimony III *bis*-catechol-2,4 disulfonate (Fuadin, Stibophen), Sodium Thioglycollate. Antimony Sodium Thioglycollate, Barium Chloride, Benzyl Alcohol, Butyl Aminobenzoate Picrate (Butesin Picrate), Calcium Levulinate. Capsules: Castor Oil, Ephedrine, Ephedrine + a hypnotic, Phenacetin Aspirin and Caffeine, Quinine Sulfate, Reduced Iron, Saccharated Ferrous Carbonate, Stramonium, Theophylline with Sodium Acetate. Cetyl Alcohol, Chlorophyll, 5-Chloro-7-iodo-8-hydroxyquinoline (Vioform), Cinnamomum Zeylanicum, Coal Tar Colorless, Coconut Oil, Colloidal Silver Chloride (Lunosol), Colloidal Silver Iodide (Neo-Silvol), Curare, Dioctyl Sodium Sulfosuccinate (Aerosol O.T.). Elixirs: Aminoacetic Acid, Ferrous Sulfate, Pentobarbital, Thiamine Hydrochloride. Emulsion of Pine Oil, Extract of Sheep Bile, Ferrous Ascorbate, Ferrous Gluconate, Glyceryl Monostearate, Gutta Percha, Histidine Hydrochloride, Homatropine Methylbromide (Novatropine), Indigo Carmine, Iodized Lime (Calcidin), Iron Arsenite, Iron Cacodylate, Jelly of Allantoin, Jelly of Gentian Violet, Lotion of Rotenone, Mercuric Cyanide, Methyl Cellulose, Methyl Chloride, Morphine Tartrate, 4-Nitro-3-hydroxy-mercuri-*ortho* cresol anhydride (Metaphen), Nutgall, Ointment Base, Hydrophillic.

Ointments: Allantoin, Butyl Aminobenzoate Picrate (Ointment of Butesin Picrate), Chlorophyll, Coal Tar Colorless, Nutgall, Pyrethrum Flowers. Oleyl Alcohol, Ophthalmic Ointment of 4-Nitro-3-hydroxy-mercuri-*ortho* cresol anhydride (Ophthalmic Ointment of Metaphen), Papain, Phenyl Mercuric Chloride, Phenyl Mercuric Nitrate, Phenyl Mercuric Picrate (Merphenyl Picrate), Pine Oil, Proflavine Sulfate or Chloride, Propylene Glycol, Pyrethrum Flowers, Resorcinol Monoacetate, Rotenone, Rubbing Alcohol, Sippy Powders, Sodium Alginate, Sodium and Gold Thiosulfate, Sodium-Antimony III *bis*-catechol-2,4 disulfonate (Faudin, Stibophen), Sodium Lauryl Sulfate, Sodium Propionate, Solution of Aluminum Citrate, Solution of 4-Nitro-3-hydroxy-mercuri-*ortho* cresol anhydride (Solution of Metaphen), Solution of Phennyl Mercuric Nitrate, Stearyl Alcohol, Sterculia Gum, Sulfonated Hydrogenated Castor Oil, *p*-Sulfonedichloramidobenzoic Acid (Halazone), Sun Tan Ointment, Tablets of Acetylaminohydroxyarsonic Acid (Tablets of Acetarsone, Tablets of Stovarsol). Tabelts: Arecoline Hydrobromide, Barium Chloride, Calcium Gluconate, Carbarsone, 5-Chloro-7-iodo-8-hydroxy quinoline (Vioform), Homatropine Methylbromide (Novatropine), Iodized Lime (Calcidin), Magnesium Hydroxide, Pilocarpine Nitrate, Potassium Bromide, Santonin, Sippy Powders, Sodium Chloride, Sodium Chloride with Dextrose, *p*-Sulfonedichloramidobenzoic Acid (Halazone). Tincture of 4-Nitro-3-hydroxy-mercuri-*ortho* cresol (Tincture of Metaphen), Titanium Dioxide, Triethanolamine, Troches of Iodized Lime (Troches of Calcidin).

Taxable Soapless Shampoos

WITH reference to the taxability of soapless shampoos, Deputy Commissioner D. S. Bliss recently made the following statement:

"This office holds that shampoos and liquids containing 5 per cent or less of saponaceous matter are taxable as toilet preparations when sold at retail; such oils and liquids containing more than 5 per cent of saponaceous matter are not subject to the tax under section 2402 of the Internal Revenue Code, as amended by section 302 of the Revenue Act of 1943.

"If you desire a specific ruling with respect to a particular shampoo, submit a sample."

No Longer a "New Drug"

THE Food and Drug Administration has officially ruled that sulfathiazole tablets are no longer a "new drug" within the meaning of the Food, Drug, and Cosmetic Act.

Alcohol for Whiskey, Why Not Drugs?

NOW that the WPB is allowing the use of alcohol for the manufacture of whiskey for the reason that the Rubber Director believed that a certain amount of alcohol could be saved in the manufacture of rubber, an effort is properly being made to secure an increased quota of alcohol to be used in the manufacture of medicines.

Civilian Penicillin Declines

A REPORT was current late last month that allocation of penicillin for civilian use was reaching a point at which distribution through drug stores was to be planned. However, we were told later that civilian allotment for June was just a little more than half the May allotment, and that it looked that the invasion was the cause of this curtailment in civilian supplies. With the invasion just under way, and increased action certain for the days immediately ahead, it appears that unless penicillin production increases very sharply, civilian supplies will be cut further.

When War Activity Stops

WITH the invasion now well under way, the end of the German phase of the war appears almost in sight. This means that the plans that have been laid for post-war activity will soon have a tryout even though the war with Japan will most likely continue for another year after the victory over the Germans has been won. Already signs of lessening activity in plants producing the tools of war are resulting in five day weeks in some plants, and in one plant late last month, in one week the plant worked three days because the Armed Forces were not taking away the material produced for them. Once the war against Germany is won, this slackening of activity will come with great suddenness and unemployment is going to be a real problem. How long it will take this nation to change over to a peace-time basis and again get people employed is a matter of conjecture. But just remember that the soldiers are going to be demobilized, and that they, too, will have to be employed, and then you begin to realize the magnitude of the problem that confronts us.

Brush Bristles from Horses' Tails

WE READ that white horse-tail hair is being used in the manufacture of brushes in Brazil. Some supplies are obtained locally, others are imported from Argentina. It is said that *the first three cuts nearest the roots are used for tooth brushes*, and the remainder for shaving, clothes, and other types of brushes. It seems that after Russian and Polish pig bristles were unobtainable, Brazil turned to domestic pig bristles only to find them black and relatively soft, so they turned to the white horse-tail bristles.

We still eat gelatin, even though we were told when we were quite young that it is made from horses' hoofs. However, it is going to take quite some courage to brush our teeth after breakfast if our tooth brush is labeled to give us these facts.

U. S. Science Outlook Gloomy?

DR. IRVING Langmuir, Nobel prize winner in physics, and one of the great scientists of the present period, in accepting the Faraday Medal from the American Institute of Electrical Engineers late last month, made the following statement:

"We need to recognize in this country the part that incentive plays in scientific development. The English and the Russians have recognized it. Prime Minister Churchill has mentioned the great part played by radar in the war but no official of our Government has offered a word on such scientific accomplishments. Rather, there have been attempts to penalize initiative. If such an attitude should persist after the war, which in itself is an incentive now, the outlook for science in the United States is gloomy."

Dr. Kelly's Retirement

WE HAVE very real feelings of regret over the announcement that Dr. E. F. Kelly is planning to retire next year as secretary of the American Pharmaceutical Association. Dr. Kelly has always stood out in our mind as one of the real solid pillars of pharmacy in this country. In his many long years of service, he had gained a background of experience that will be sorely missed.

Vitamin Restriction Extended

WITH reference to capsules containing 50,000 units of vitamin D for treatment of arthritis, the Food and Drug Administration has the following to say:

"Medical opinion is divided on the question as to the efficacy of these preparations (in treatment of arthritis). Obviously, without more complete knowledge with regard to the exact status of vitamin D preparations in the treatment of arthritis, claims for their use in this condition might be misleading.

"In our opinion, high potency vitamin D preparations cannot be used safely or efficaciously by the ordinary lay person and distribution of such products should be restricted to sale by or on the prescription of a physician."

Which again brings to attention the increasing restrictions forcing the sale of vitamin preparations through drug stores. Late last month the attorney-general of the State of New York held that many concentrated vitamin preparations are drugs which can be retailed only through pharmacies, drug stores, and registered stores. Registered stores are stores licensed in villages of less than 1,000 inhabitants having no drug store or pharmacy within three miles. The ruling by the attorney-general was made at the request of the State Board of Pharmacy and covered vitamin concentrates in the form of pills, tablets, capsules, and drops recognized in the official compendia. Any attempt to change this ruling will have to go through the courts of the State.

EUROPEAN

When Doctors Make Mistakes

RECENTLY we were told by a physician who is busily engaged in painting a pretty picture of the medical profession in an effort to stem the trend toward socialized or state medicine, that he knew that many faults existed in many members of the medical profession. However, he did not think that it was best for the medical profession and the drug manufacturers to have these things pointed out at this time. Rather, he thought, the thing to do was to get behind the program now under way to extend medical care by means of group health plans of corporations, unions, insurance companies, and other groups so that any attempt to put medicine in the hands of the government would be checked.

We quite agreed with him that we most devoutly wished to check the tide toward state medicine but thought that the complaints of the ordinary man regarding medical care were worthy of consideration. We stated that unless these complaints were brought into the open, the ordinary individual would have no faith in, or perhaps no knowledge of any steps being taken to extend medical care by the means mentioned. Furthermore, we fail to see that any great advantage to the medical profession, and to the drug manufacturing industry in particular, will exist by merely trying to quiet the public in its criticism of these abuses through the medium of changing the method of payment from individual payment to group payment. The change might alleviate the criticism for a time, but when the novelty has worn off, the criticism will be revived if the faults of the medical profession itself are not corrected.

And merely because the medical profession has been badly frightened by the threat of socialized medicine, we do not understand why the drug manufacturing industry should feel that it must refrain from defending itself in the face of continued criticism heaped upon it by members of the medical profession. The particu-

larly popular theme of the doctors—as sounded off by Dr. Morris Fishbein—is the "racket" in which the drug manufacturers are engaged in their marketing of vitamin products. But it does not stop there. The most damaging actions on the part of members of the medical profession is when they try, and often do, cover their own mistakes by blaming a fatal accident upon a drug manufacturer's product administered in a particular case.

There is nobody like the doctors when they undertake to cover up their own mistakes or the mistakes of those carrying out their orders. As soon as a mistake occurs, immediate steps are taken to see if the blame cannot be passed on to the manufacturer of the product, or if this fails, then the error must be due to the lack of regulations surrounding the product itself.

Following this line of reasoning, the New York City Board of Health recently issued new regulations covering the labeling of boric acid in New York City. The latest accident whereby babies died because of the misuse of boric acid occurred in a hospital in New London, Connecticut. But all hospitals are under the direction of doctors, and the recognition by the Board of Health of the great City of New York should aid the Connecticut doctors in their argument that the accident was due to faulty labeling and not to any undue carelessness on the part of the doctors or of the nurses or pharmacists who worked under them. And for the good of the medical profession, particularly at this time, the reputations of all hospitals must be protected by any means.

The new regulation promulgated by the New York City Board of Health requires that labels on boric acid in the form of powder, crystal, or solution, shall bear the warning: "Caution—Not for Internal Use Except as a Mouth Wash, Eye Wash, or Douche."

The truth of the matter is that such a regulation cannot possibly have any effect in preventing a repetition of the accident that occurred in the New London hospital. The accidents that occur from boric acid in cases of infants occur in hospitals and not in the homes. Therefore, the labeling will not in any way serve to prevent such accidents in hospitals. Hospital pharmacies buy boric acid and most other drug items in bulk containers. When these products are dispensed to the nurses for use on a patient, they are dispensed in small containers generally in the form of small glass dishes or saucers. There is absolutely no labeling on these dishes. Therefore, a mistake can occur just as easily as a person can dip his spoon into a dish full of salt and pour it into his coffee instead of sugar. Recently, we advocated that boric acid for medicinal use be given a distinctive color or odor so that it would be instantly recognizable. However, for the medical profession to advocate this would be an admission that the mistake lay at its own front door. Moreover, since we made this suggestion, we have been informed that one of the oldest and largest hospitals in New York City has for some time colored its boric acid solution.

To indicate further that the entire medical profession was behind this cover-up, the New York Academy of Medicine approved the action of the New York City Board of Health and recommended further that "many other substances should have similar precautionary labeling," claiming that bicarbonate of soda, common salt, Epsom salts, salicylates, Rochelle salts, alcohol, and some other drugs "may be poisonous, although the substances have slight toxic properties."

Another instance of the cover up by doctors occurred in the case of Doryl, a product of Merck & Company. This product is sold in three different forms. It is sold in tablets for oral administration, and in ampoules of solution for subcutaneous injection. In addition it is sold in ampoules of the powdered product from which a solution is made for use in eye disorders. The tablets and the ampoules of solution are for post-operative use. In a Detroit hospital recently, an injection of the product was ordered by the doctor. The hospital pharmacy, instead of delivering to the nurse an injection ampoule of solution, delivered an ampoule of the powdered product. The material in the ampoule of powder was dissolved in water and the whole amount was injected into the patient causing death. The amount of the drug contained in the ampoule of powdered material was six hundred times as much as the amount contained in the ampoule of solution. Therefore, the patient received six hundred doses at one time.

Immediate steps were taken by those connected with the hospital to place the blame upon the manufacturer, Merck & Company. Immediate publicity was given to the accident by the doctors and others in the hospital and the coroner's report clearly blamed the accident upon the manufacturer and absolved the doctor, nurse, and pharmacist. The accident was due, according to the coroner, to the product not being properly labeled.

Naturally, when the charge of mislabeling was suggested as the result of attempts to cover up the hospital in Detroit, the Food and Drug Administration stepped into the picture and made a thorough investigation. Imagine the surprise of the Food and Drug Administration and of Merck & Company when the investigation revealed that some twelve or fifteen similar cases had occurred in various places with none of them ever coming to light at all. Of these cases, another one beside the one given such wide publicity occurred in Detroit, and the balance occurred in other places. But the cover up by the doctors had been so perfect in these other cases that no one knew of them—not even the Food and Drug Administration or the manufacturer whom the doctor in the last case sought to blame.

Here are instances where mistakes on the part of hospital pharmacists, nurses, and/or doctors caused deaths because the labels were not properly read and because whoever administered the drug was not properly familiar with the drug to know the form in which it was ordinarily delivered. Perhaps there were still other similar accidents from the drug which had been

(Continued on page 106)

GERALD F. RORER, PRESIDENT

A.Ph.M.A. Meeting

CONCERNING the threat of state or socialized medicine, retiring president of the American Pharmaceutical Manufacturers Association, Clarence W. Warner, had the following to say in his presidential address at the recent annual meeting of the association held last month:

"Organized labor has now put itself firmly on record as favoring a national compulsory sickness insurance plan.

"The national survey of public opinion conducted by *Fortune* magazine indicated that ¾ of our people feel the government should collect enough money in the form of taxes to provide for medical care for all who need it.

"The survey recently conducted by the National Physicians Committee indicates that a majority of the people feel that a method must be devised for easier payment of medical bills but that the majority were not in favor of a federalized plan of control.

"Data such as this indicates that the public is thinking seriously on this important subject and my summation of their opinion would be somewhat as follows: They prefer to be taken care of under some health plan privately controlled which will allow for the budgeting of their annual medical expenses. For those, however, who cannot be encompassed in such a plan, they then approve of direct outside aid either by state or federal government.

"Some progress has been made since a year ago toward seeing that a practical working plan is evolved that will satisfy the needs and demands of the lower income group. How sound the proposed solution is the future alone can tell.

"It was indeed pleasant to see and hear that the New York State Medical Society had at their recent convention decided to provide through their members a non-profit plan to insure low income workers against all catastrophic illness. This adds one more state to the already 13 or 14 who now have such plans in operation. Of all the proposed plans that have come under discussion these non-profit state physician controlled plans appeal to me most. Sufficient experience has now been gained by most of these states so that they are now functioning on actuarily safe ground. In the first full calendar year that the New Jersey Medical and Surgical plan was in operation they were able to show a working profit. Membership was increasing as fast as they were in a position to absorb it and the cost of enrollment was extremely moderate; in fact I have been unable to find any private insurance plan capable of giving the same services at anywhere near an equal cost.

"In my opinion more state medical societies should be entering into this field of furnishing prepaid medical service and eventually they should cover a large proportion of the people in an industrialized area. I understand that 22 states have passed legislation allowing them to set up medical surgical plans so we can hope for an increased spread in prepaid service in the near future.

"The plans now in operation do not by any means however completely solve the problem that faces us. What to do with those who are ineligible, such as farmers, domestics, small employers of labor, people unemployed living on small incomes, and others, is a study in itself and their needs will have to be met by a gradual lessening of restrictions in membership in plans now in operation. Another definite problem that will have to be faced is that of offering a coverage for people in certain of our poorer and non-industrialized states. Here it seems we must look for some sort of state or federal aid as no plans under present consideration could be made to work under such conditions. The main thought today should be to see that the various states speed up their programs as rapidly as possible so that the present-day trend toward the adoption of a federalized health program can be sidetracked. In my opinion action must come principally from our medical societies in solving this problem, with of course, the wholehearted support of industry."

The meeting, which was extremely well attended, proved highly interesting, and outstanding papers of particular interest to the manufacturers in their businesses were delivered by Dr. Carle M. Bigelow, of Calco Chemical Division American Cyanamid Co., on "The Executive Approach to Post-war Problems," and by Russell J. Fosbinder, of the Maltbie Chemical Company, on "Research—Its Future in Our Industry." Major General George F. Lull, Deputy Surgeon General, U. S. A., spoke on wartime treatment of the sick and wounded, and Brigadier General James S. Simmons, Chief Preventative Medical Service, U. S. A., spoke on the role of preventive medicine in the present war.

Dr. Bigelow stated that the most conservative estimate of minimum post-war national income to maintain

(*Continued on page 106*)

MEN'S HAIR GROOMS

Barber Shop, oil, by Cundo Bermudez from Exhibition of Modern Cuban Painters Museum of Modern Art

IN MANY instances war time necessities have turned into virtues. All kinds of products of ever so many fields of endeavor have been conceived as substitutes only to emerge as improvements over the originals. Moreover, different lines of approach have been applied to problems, approaches which were stimulated or made feasible by the exigencies of war conditions.

All this seems to hold true in the field of men's hair grooming preparations. While it has always been a tremendous field with innumerable brands it has not been very diversified from a technical point of view in the past. This has changed radically recently. Various modern raw materials have afforded new possibilities in the formulation of hair preparations and the resulting products are finding ready acceptance.

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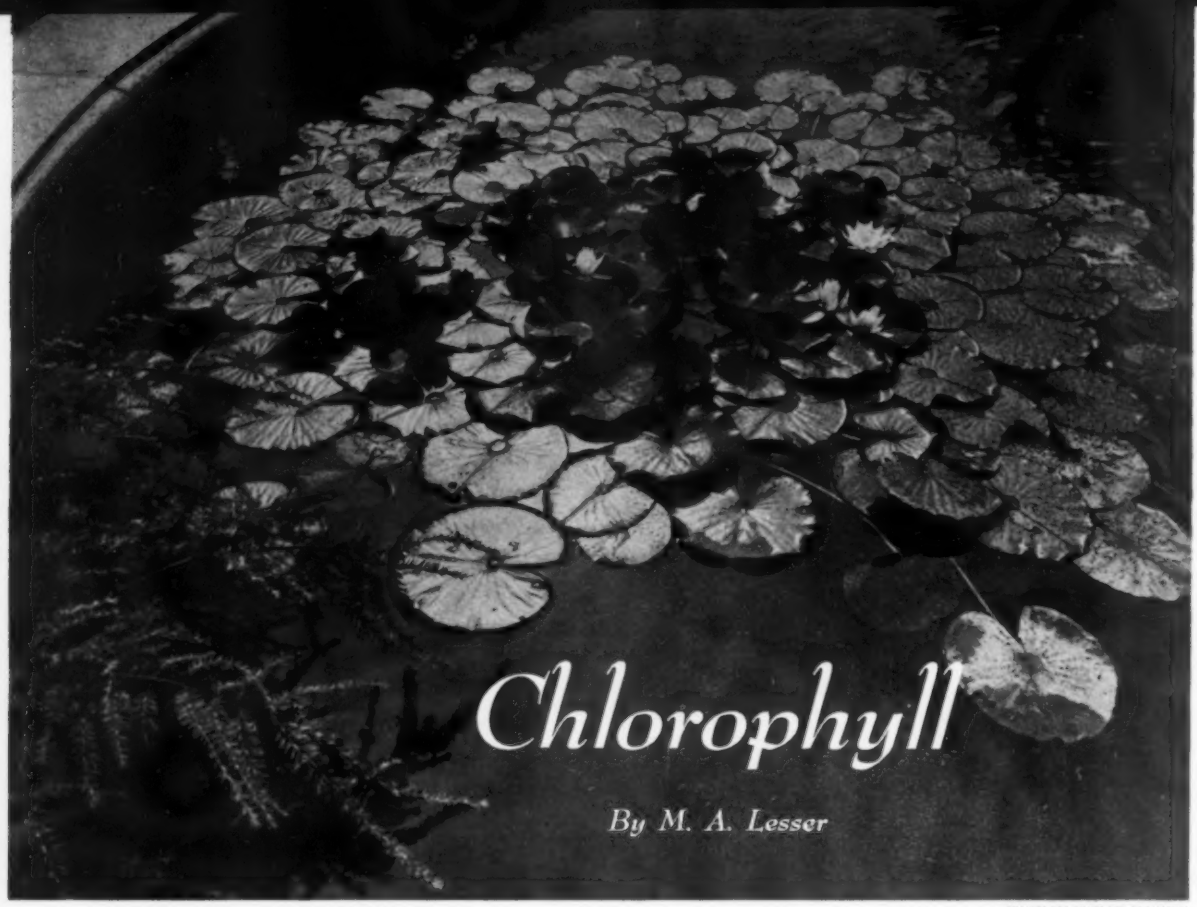

Chlorophyll

By M. A. Lesser

CHARLES PHELPS CUSHING

CHLOROPHYLL, the green coloring matter of plants, has fascinated scientists ever since they began to realize its vital function in nature. Generations of research workers have probed for the secret of this substance but it is only within the last decade or so that a really concerted effort has been made to unfold the whole picture. That there are enormous potentialities in chlorophyll has long been realized, but much more work must be done before any great returns can be expected. In the field of therapeutics, however, chlorophyll has already begun to show definite indications of being immediately valuable in the treatment of a wide variety of conditions.

Chemically, chlorophyll is a highly complex substance. Indeed, it is only about thirty years ago that its empirical formula was first established. Details on its known composition and structure are available in the literature,[1, 2, 3] and of these, the recent survey by Rothemund[4] of the Kettering Foundation for the Study of Chlorophyll and Photosynthesis is among the most informative. Briefly, chlorophyll consists of two components: blue-green chlorophyll a ($C_{55}H_{72}O_5N_4Mg$) and yellow-green chlorophyll b ($C_{55}H_{70}O_6N_4Mg$); these usually occurring in nature in the ratio of 3:1. Both forms are neutral in reaction, are optically active, but possess no definite melting points.[5]

Several methods for extracting chlorophyll are available[6] and some of these procedures have been patented.[7, 8] Chlorpohyll probably occurs in greatest concentration in nettles, alfalfa and spinach and may be obtained by extraction with acetone. More important from the therapeutic aspects, however, are the various derivatives of chlorophyll. Many such derivatives are possible, and as pointed out by Rothemund,[4] therapeutic chlorophyll preparations do not necessarily contain chlorophyll but may have as the active pharmacological material a derivative formed from the original chlorophyll during the process of manufacture.

Although other derivatives have had frequent application, in the United States, at least during the last few years, attention has been focused on the so-called "water-soluble chlorophylls." Thus, hydrolysis of chlorophyll a with sodium hydroxide yields sodium magnesium chlorophyllin, a water-soluble derivative finding frequent use in preparations for treating wounds and promoting healing. Chlorphpyll b reacts in a similar way. Other water-soluble derivatives, containing iron or copper instead of magnesium have also been used medicinally, chiefly in the treatment of anemias.[9, 10]

Workers with chlorophyll admit that lack of acceptable standards has been one of the chief obstacles to the wider use of chlorophyll and that this is one of the major reasons for the inconsistent results often obtained. Although such standards have been proposed from time to time,[11] none has yet met full acceptance. Nonetheless, by establishing set values for specific derivatives and by maintaining high standards of

purity it has been possible during recent years to obtain quite consistent, reproducible therapeutic results.

Chlorophyll, sometimes called leaf green or chromule, has long been used as a coloring agent for foods, pharmaceuticals, cosmetics and soaps. It has a well-established place for coloring tonics, expectorants, corn remover solutions and other drug products.[10]

Although there is no evidence to support the view that chlorophyll has a place in normal nutrition,[12] there is considerable proof that certain vitamins are intimately associated with the presence of chlorophyll. It is known that chlorophyll is a limiting factor in the synthesis of vitamin A in some plants.[4] On the other hand, various studies[13, 14] have shown that there is a rather direct relationship between the quantity of chlorophyll in a plant and the proportion of vitamin C available. A similar relationship has also been shown for vitamin K.[15] Pertinent in this connection is Rakshit's[16] observation that even a small concentration of chlorophyll a or b protects ascorbic acid against autoxidation.

For internal use as a medicinal agent, chlorophyll has undoubtedly found its greatest use in the treatment of anemias. Indeed, chlorophyll does bear a striking resemblance to hemoglobin, the pigment material of red blood cells.[17] In a general way, it may be said that both substances are modifications of the same structure, with chlorophyll containing magnesium instead of iron. Hence, it is quite understandable why attempts should be made to use chlorophyll or its derivatives in the treatment of conditions marked by hemoglobin deficiencies.

In 1935, Schweitzer[18] used a chlorophyll phosphate in tablet form for treating anemia. In the following year, Patek[19] reported significant increases of hemoglobin in a number of patients with hypochromic anemia after administering chlorophyll products combined with ferric ammonium citrate. Babonniex,[20] who considered chlorophyll valuable in many disorders, recommended it for anemia because he felt that the product had a stimulating effect on the blood-forming organs. From his own experiments, however, Zih[21] came to the conclusion that the often-praised blood-building effects of products containing chlorophyll is of little value.

Chlorophyll has been reported as favorably influencing arteriosclerosis,[4] and it has been suggested as useful in treating cardiac hypertensions[20] From time to time, chlorophyll has also been administered in such varied conditions as cardiac failure, nervous fatigue, underdevelopment in children, avitaminosis A, tubercular infections and acute diseases.[10, 20]

There is some experimental evidence that a relationship may exist between chlorophyll and certain hormones. Breneman,[22] for example, found that the effectiveness of pituitary gonadotropic extract was increased in immature female rats and chicks after admixture *in vitro* with alcohol- or water-soluble chlorophyll. More recently, in studying the influence of chlorophyll on the activity of gonadotropic extracts, Leatham and Westphal[23] noted that addition of chlorophyll slightly augments anterior pituitary extract, does not affect a male-urine extract, and completely inhibits mare-serum hormone.

From all present indications, it would appear that chlorophyll and its derivatives will find their greatest usefulness in treating more or less external conditions, such as wounds, burns, ulcers, dermatological infections, and otolaryngeal disorders. As a matter of fact the use of chlorophyll preparations is not entirely new. For generations, poultices of wet grass and leaves have been used empirically and quite effectively by farmfolk for the treatment of cuts and soreness.[10]

Some workers, more especially European investigators, have employed oil-soluble chlorophyll products in their laboratory and clinical studies, but in the United States the tendency has been toward the use of water-soluble preparations. Experience of several years has convincingly demonstrated that the water-soluble chlorophylls are preferable clinically because not only are they therapeutically as effective as the oil-soluble products, but also because they are bland and non-irritating.[5] These products are applied in the form of solutions, ointments and salves; the type of preparation to be used varying with the kind of lesion or infection being treated. It should be mentioned at this time that several of these therapeutic chlorophyll preparations have been covered by patents.[24, 25, 26, 27]

The mechanism whereby chlorophyll, or, more specifically, its derivatives produce the beneficial effects is not clearly understood. It is known that these products do possess decided antibacterial properties and that they act to accelerate healing. As was the case with the sulfonamides, earlier *in vitro* studies failed to show that chlorophyll had any bactericidal properties, even though its clinical use promoted the healing of infected wounds. For example, Daly and his associates[28] found that certain chlorophyll derivatives inhibited the growth of tubercle bacilli, while other products did not retard the growth of the organisms.

In May 1944, Smith[5] reported work on the antibacterial properties of water-soluble chlorophyll derivatives. As a result of these investigations, which were aided by a grant from the Committee on Therapeutic Research of the Council of Pharmacy of the A.M.A., he was able to report that evidence had been accumulated to support the premise that chlorophyll acts to produce an environment unfavorable to the growth of bacteria rather than by any direct action upon the organisms themselves. The ability of these derivatives to hold back anaerobic bacterial growth points, in his opinion, to an oxidation mechanism. In brief, while chlorophyll is not strictly bactericidal, it does exert a definite bacteriostatic action and may even display a bactericidal effect against certain organisms under suitable conditions.

In this paper, Smith suggested that the prompt tissue repair response to chlorophyll therapy might be

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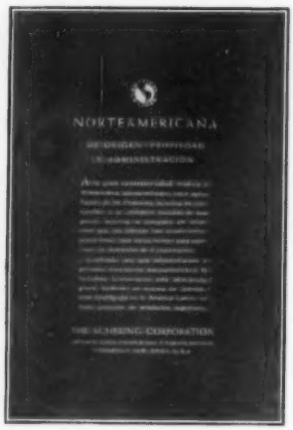
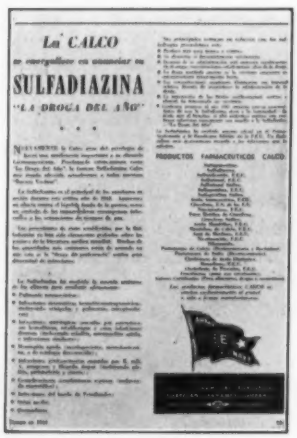


DOING BUSINESS IN

THERE are many manufacturers who are still timid about undertaking the establishment of business in Latin-America. This is so despite the fact that some of our leading pharmaceutical and ethical specialty houses have now reached the stage at which they are in this market with both feet. E. R. Squibb & Sons have formed Squibb International, headed by Theodore Weicker Jr., and with F. W. Nitardy, formerly vice-president of Squibb and superintendent of the Brooklyn laboratories, as vice-president of the new company. A plant has been erected in Mexico, and work is going on apace in other Latin-American countries with the object of establishing the entire Squibb line of pharmaceuticals and specialties throughout the countries to the South of us.

Squibb has long been an exporter to Latin-America. During the twenties and thirties, such products as dental cream and others were shipped to certain Latin-American countries in bulk and then packaged in these countries. But the present movement is different. The Squibb company is to be firmly established as a manufacturer of all types of medicinal products. One must remember that Parke, Davis has long been established as a manufacturer of a full line of products not only in Latin-America, but also in many other countries of the world. As a matter of fact, an English doctor some years ago told an American representative of another drug house that he knew that Parke, Davis was an English house. Likewise, Burroughs Wellcome has been established in this country to the point at which many might think of the company as an American owned one. Houses such as Hoffmann LaRoche, Ciba, Schering, and others enjoyed excellent business and excellent reputations in this country although they were owned abroad. And these houses were in direct competition with firmly entrenched American owned companies.

Because of these facts there is no reason to fear that more American manufacturers cannot establish themselves permanently in Latin-America and compete on an equal footing with all comers whether they be of



LATIN-AMERICA

German, English, French, or any other origin. The prime necessity is that the company going into the Latin-American market go in an all-out manner and with a determination to stay there and build up a real business even though losses be sustained for some time before the turn comes. For the building of expanded markets to take up some of the slack when the heavy war buying ceases, there is no time like the present because the losses sustained today in these markets do not mean much because of the heavy income tax rates prevailing.

However, the committees of the U. S. P. and the N. F., as well as our U. S. Public officials must be made to realize that they have a lot to do with the development of business in Latin-America and many of their actions are hampering the furtherance of this business. The U. S. P. drops great numbers of items from successive revisions merely because the use of these products has lessened in the United States. Likewise the N. F. drops large numbers of items for the same reason. In the forthcoming revision, the N. F. Revision Committee plans to drop a very long list of preparations of botanical drugs. Then an official of the U. S. Public Health Service backs up Mayor LaGuardia of New York when he states that the Federal Food, Drug and Cosmetic Act should be amended in such a way that all products exported should conform with the requirements which the law prescribes for products sold in this country.

In the first place, the Latin-American countries are quite entitled to the belief that their physicians and pharmacists know something about the practice of medicine and the preparation of remedial agents. Certainly they do not relish the idea of being told by the United States what is good for them and what is bad for them. Drugs which the physicians of those countries use with great efficacy in the treatment of disease might be discarded in this country and dropped from our official compendia. Not that our own physi-

(*Continued on page 119*)

Insect Repellents

By H. HILFER*

A malarial control unit at a Marine base in the South Pacific erected this billboard to encourage the widespread use of insect repellents and thus to keep down the spread of malaria.

For many years, certainly during most of the years of my childhood, the coming of spring and summer always associated itself with the odor of citronella oil which appeared as an article of daily use almost at the same time. I never could decide which was the worse—the strong odor or the mosquito bite. The fact that the citronella oil did not appear to do much good probably had a great deal to do with what I was thinking. It is a far cry from that period to the present time when it is possible to use a pleasant smelling or odorless material which does a far superior job.

The advent of the war and the shipment of our troops to tropical points, infested with insects, has placed a greater emphasis on the studies of insectifuges. The literature now contains many different classes of compounds recommended for this purpose. In my own experience with their practical use, I have found those I have tried entirely effective and easily used. The North Shore of Long Island, possessed of many charms has many attractions for a summer resident, but it has some disadvantages, the greatest of which are the swarms of gnats which greet anyone daring to venture to the water's edge with the coming of nightfall. I remember very vividly trying to finish painting a row boat before it became too dark to see and almost being driven frantic by the gnats. I finally was forced to take enough time out to apply one of the newer insectifugal materials to my face and arms and then was able to resume work without being bothered. The amazing thing to me was the complete protection given. It was not only a case of fewer gnat bites, but of all the gnats staying away.

The literature includes many different types of substances as insectifuges. All of them have only one thing in common and that is that they are high boiling point materials which vaporize slowly at room temperature. The vapors undoubtedly do the repelling but why they do is not very well understood. Among the substances for which insectifugal claims have been made are cyclohexyl caprate, lauronitrile diethylene glycol monobutyl ether acetate, diethylene glycol monoethyl ether and dimethyl phthallate. Recommended in a patent for use on clothing as well as the skin is dibutyl (1) malate diethyl (dl) malate, benzyl lactate or tetrahydrofurfuryl lactate. More recently patent No. 2293255 issued to Philip Granett and assigned to the National Carbon Co. recommends the use of mixtures of ethylene glycol dibenzyl ether, diethylene glycol butyl benzyl ether, or diethylene glycol monobutyl ether used in an alcohol, glycerol, or oil vehicle. U. S. Patent No. 2293256 relates to the similar use of ethylene glycol monophenyl ether, ethylene glycol monoeugenyl ether, diethylene glycol monobenzyl ether, or diethylene glycol monophenyl ether. It is not the purpose of this article to attempt to classify these materials or to demonstrate their characteristics. They are all relatively new and the manufacturer will have to pave his own road in this direction. However, they are all capable of incorporation in a vehicle which is similar to

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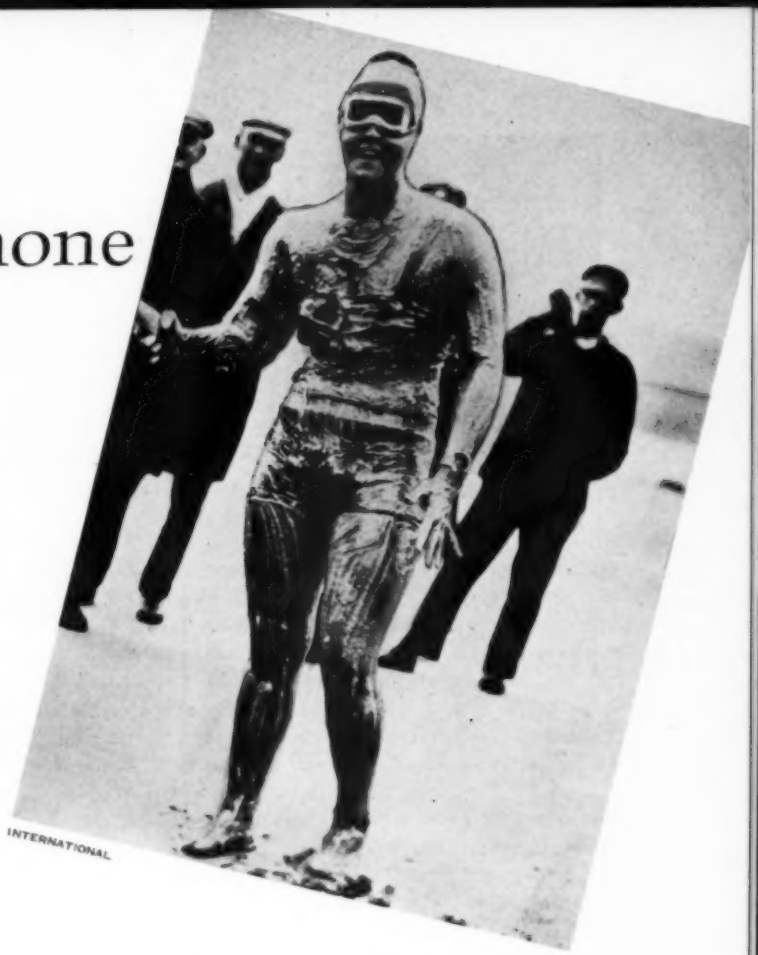
*Research Chemist, Lehn & Fink Products Corp., Bloomfield, N. J.

Cosmetic Hormone Creams



Even if a user were to coat her body like a channel swimmer's with any of the commercial estrogen creams, the amount of active ingredient absorbed into the blood stream would still not produce a dangerous systemic effect.

THE action of the State of Virginia in prohibiting the sale of cosmetic hormone creams except by doctor's prescription has the effect of closing that state as a market for the estrogenic creams just as their sale had gathered considerable momentum and as many new products of this type are being prepared for the market. Admittedly the estrogenic hormones are potent materials but any reasonable approach to the subject would appear to accept the fact that the ghost of "danger" from creams of this type was laid completely in the Endocreme—American Medical Association case of six years ago. At that time the possibility of systemic effects from such amounts as are included in the typical cosmetic hormone cream was clearly proved to be impossible. The average cream of this type contains from seven to ten thousand International Units of estrone per ounce and even if a user could afford to coat her body from top to toe with as thick a coating as a channel swimmer every day of her life, it would be impossible for enough to be absorbed by the blood stream to produce any dangerous systemic effect.

The action of the State of Virginia is arbitrary and unreasonable because it fails to take into account the strength of the preparations involved. The appropriate section of the Virginia Dangerous Drug Law of 1944 now in effect reads as follows: "The words 'dangerous drug' shall include . . . . (c) Hormones, or hormone drug preparations, whether of natural origin, prepared from the so-called glands of internal secretion or endocrine glands, or whether synthetically produced, by whatsoever trade name or designation, or any compound mixture thereof." The sale of any product listed as a "dangerous drug" is prohibited except by prescription and "no person other than a licensed pharmacist shall sell or offer to sell any dangerous drug to consumers or have such drug in his possession with intent to sell or give away to consumers."

It is to be hoped that, at the earliest opportunity the State of Virginia will take steps to amend this unreasonable law for it has already been demonstrated to one court's satisfaction that there is no systemic effect from the application of cosmetic hormone creams to the skin. Although small amounts of the estrogenic substance may be absorbed into the blood stream, they are so small that there is no observable systemic action.

As a matter of fact, the value of these creams lies in their local action at the point of application and not in any systemic effect. The action so far as it has been observed is purely local and, according to some workers, consists in an increase of the blood circulation at the point of application. This stimulated circulation results in the skin cells in the area receiving more nourishment and some studies indicate that the cells are stimulated to reproduce more frequently and thus help to bring about a more youthful appearance.

Although there is much evidence by qualified workers to substantiate these statements of the creams' action, the manufacturers who up to this point are marketing products of this type have generally been modest in their claims. Contains "A glandular young-skin in-

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101 West 31st Street
New York 1, New York

Dear Mr. Sheets:

In your letter of June 14, 1944 you ask for a statement of the attitude of the Food and Drug Administration toward cosmetic hormone creams.

A number of manufacturers have discussed with us the question of the legality from the standpoint of the requirements of the Federal Food, Drug, and Cosmetic Act of the interstate sale of cosmetic creams which ordinarily contain approximately seven or eight thousand International Units per ounce of natural estrogens extracted from the urine of pregnant animals and which consist essentially of estrone and estradiol.

We have consistently pointed out to those who have asked our opinion that these estrogenic hormones are potent drugs and that in appropriate doses they are capable of causing profound changes in the functioning of certain organs of the body; that for example they afford beneficial effects in alleviating many of the distressing symptoms associated with the menopause when the drug is administered in a quantity suitable to the needs of the patient after examination by a competent physician.

We have stated that it is not yet possible to acquire evidence of what will be the ultimate effect of small amounts of estrogenic substances applied to the skin in a cream base. Some physicians have reported that creams containing estrogens bring about changes in the texture of the skin which tend in selected cases to maintain a youthful appearance as long as the cream is used. Other investigators have reported diametrically opposite conclusions. These differences have been explained on the basis of individual variations and on the quantity of estrogens present. Frankly we are very skeptical of the ability of these creams to accomplish the results promised, but we are not as yet in a position to present in court evidence which we believe sufficient to disprove the claims.

Quite naturally we have given attention to the question of whether or not these creams may be harmful. From a theoretical standpoint they can not be considered innocuous, but there is no conclusive evidence that harm has resulted from the use of creams containing the amounts of estrogens found in those now on the market. Because of the lack of definite information concerning the value of these products, and particularly concerning the ultimate effect of their continued use, we have consistently informed manufacturers that we do not look with favor upon their distribution for unsupervised lay use.

Very truly yours,

P. B. Dunbar
Commissioner of Food and Drugs

In his letter, reproduced here in full, Dr. Paul B. Dunbar, Commissioner of Foods and Drugs, has given a clear and complete statement of the attitude of the Food and Drug Administration toward cosmetic hormone creams. Every manufacturer will read this statement with interest.

gredient which helps impart a look of vitality to sallow complexions;" contains "the equivalent of an estrogenic substance abundant in youth but diminishing with advancing years . . . . important aid in attaining a youthful appearance of face and neck;" contains a "counterpart of the substance that replaces Nature's own secret for young looking skin . . . . to help firm and freshen tissues . . . . to help skin to fresh bloom" are typical claims made for these products. However, research is continuing and evidence is being accumulated which will result in a substantial broadening of present claims, according to many familiar with the work in this field.

Apart and aside from what may be argued concerning the positive and helpful effects of these creams, there should be no question in any reasonable mind that they are not "dangerous." The evidence as far back as the Endocreme—A.M.A. court fight of 1938 should have satisfied even the most conservative on that score. A proper medical and administrative viewpoint at this stage of the hormone cream's development is probably that of Dr. Louis Schwartz, medical director, dermatoses section, United States Public Health Service, who is quoted as saying that, "although it was possible that some proof may be found for the cosmetic theory that the application of hormones to the skin in such creams promoted temporary revitaliza-

(*Continued on page 118*)

The Pharmaceutical Uses of MENADIONE

By W. B. BAKER*

THERE are many theories of blood coagulation, but most agree that blood plasma contains a substance, prothrombin, which is transformed in the presence of serum calcium and thromboplastin (thrombokinase) to an active coagulant, thrombin, which in turn instantly precipitates blood fibrinogen as fibrin, thus forming a clot. The reaction may be simply stated as follows:

Prothrombin + Ca + Thromboplastin > thrombin

Thrombin + fibrinogen > fibrin

While most investigators agree that these four essentials (prothrombin, calcium, thromboplastin and fibrinogen) are necessary for the reaction to take place, all are not in agreement as to the exact mechanism involved in the clotting of blood.

The history of vitamin K and its role in blood coagulation began in 1929[1] when a hemorrhagic disease was reported in chicks reared on a fat-free diet. A few years later, similar observations were made;[2] it was found that the blood of such chicks, when allowed to stand overnight, failed to clot. In 1935, Dam named the etiologic factor of this disease, the "koagulation vitamin." The Danish word for coagulation is "koagulation," hence, vitamin "K"[3, 4]

Natural vitamin K is more correctly designated as vitamin K_1. It is 2-methyl-3-phytyl-1,4-naphthoquinone. Another natural anti-hemorrhagic (blood clotting) factor, vitamin K_2, is said to be 2-methyl-3-difarnesyl-1,4-naphthoquinone.[5] The two naturally-occurring substances having a naphthoquinone nucleus, vitamin K_1 and vitamin K_2, have similar physiologic properties.

Natural vitamin K may be easily derived from alfalfa and also occurs in spinach, carrot tops, chestnut leaves, tomatoes and oat sprouts. It is present in soy bean oil and some vegetable oils, but not to any appreciable extent in fish liver oils. In addition, natural vitamin K is synthesized in the gut of man and in the rumen of sheep and other herbivorous animals by the action of bacteria.

The purification of vitamin K in crystalline form was accomplished in 1939.[5] Studies in regard to the chemical nature of the substance indicated that it was related to substituted 1,4-naphthoquinones.

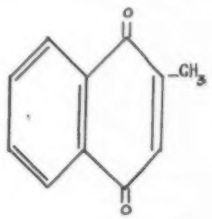
The *synthetic* vitamin K analogue, 2-methyl-1,4-naphthoquinone, which represents a component part of the vitamin K_1 and vitamin K_2 molecules, is a highly active quinone. From laboratory experiments, it would seem that 2-methyl-1,4-naphthoquinone is the most potent of the synthetic preparations so far assayed. Its vitamin K activity is said to be even greater than the original K_1. By the chick-assay method, it is said to be about 3 times as potent as vitamin K_1, at least on a weight basis.[6, 7, 8, 9, 10, 11]

Menadione (pronounced mĕ - nä - dī - one), which is the name given[12, 13] to the vitamin K analogue 2-methyl-1,4-naphthoquinone, is easily prepared, is relatively stable, and is so constant in its action that its use has been suggested as a standard for the comparison of vitamin K activity of all related compounds.[14]

Menadione has two advantages over vitamin K_1: (1) It is a solid, crystalline substance and easy to handle—whereas K_1 is a thick viscous liquid, difficult to handle pharmaceutically. (2) It is much less expensive.

Menadione is defined as a synthetic, vitamin K analogue; 2-methyl-1,4-naphthoquinone.[12] It is obtained merely by oxidizing one of the hydrocarbons (2-methylnaphthalene) found in coal tar with chromic acid. According to the U.S.P. XII,[15] menadione (2-methyl-naphthoquinone), when dried over sulfuric acid in a vacuum desiccator for 4 hours, contains not less than 98.5 per cent of $C_{11}H_8O_2$.

Menadione has the following structural formula:



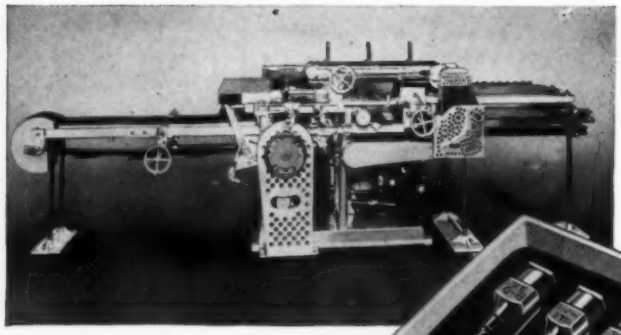
Molecular Weight = 172.17

Melting Point, between 105° and 107°C.

Antihemorrhagic activity of any biologically significant magnitude is found only in the series of the 1,4-naphthoquinones, or among compounds convertible into such quinones. The high potency of 2-methyl-1,

(*Continued on page 115*)

*Director of Technical Service, Pharmaceutical Department, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.



B-D
HYPODERMIC NEEDLES

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As in so many other cases, our FA model met every need. Quickly adjustable, this machine wraps all three sizes of their hypodermic-needle cartons in moisture-proof cellophane at a speed of 70 per minute.

End folds and bottom seam of the wrapper are hermetically sealed by a thermostatically-controlled heating unit, producing a wrap which defies moisture penetration as well as the finest dust. When you consider that these needles are shipped to fighting fronts in all parts of the world, this dependable wrapping is of extreme importance.

If you have a product essential to the armed forces, or to civilian needs, call on us for suggestions. We are equally prepared to study your postwar packaging plans now.

Write for our new book "Sales Winning Packages and the machines that produce them".

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Over a Quarter Billion Packages per day are wrapped on our Machines

Packaging and Selling

Speaking of Firsts

One of the most interesting additions to our "Speaking of Firsts" series comes in the form of an original contribution by C. W. Godefroy, president of the Godefroy Manufacturing Co., St. Louis He puts his finger on a common blind spot in most discussions of American cosmetic origins and adds considerable to the printed record of those early days. Furthermore, he does it so well that we're just going to let you have it the way he gave it to us.

"I am afraid the writer of your interesting article in 'Packaging and Selling,' which appeared in your March issue, went up the blind alley which so many have gone in studying the origin of our American cosmetic market. He makes the statement in 'Speaking of Firsts' (page 291, bottom of third column), 'At that time cosmetics were sold only in drug stores and the chances are that many, if not all, of the first cosmetics sold were compounded and sold by local drug stores like that of Daggett & Ramsdell.'

"It is difficult for those of today who contemplate the millions of dollars of cosmetics being sold through the drug stores, to visualize that there once was a day when drug stores actually sold drugs!

"If one wants to trace this history, he must go to that source which brought it over from the Old World, the 'Hairdresser'—a word formerly used to denote all phases of beauty culture *and* merchandising. The 'Hairdresser' of that era was both manufacturer and merchant. He made everything he used professionally in his shop—there was no other way to get them. Nor would he have bought them elsewhere, even if they had been obtainable. Among the things taught him under the ancient apprenticeship system of Europe was not only the making of postiches—wigs, bangs, switches, etc.—but also the making of hair tonics, creams, lotions, powders, rouges, etc. Not only were these goods used professionally in his shop, but they were often packaged and sold over his counter, together with a multitude of other articles of beautification—combs, pins, artificial flowers, other ornaments for the hair, and what not.

"Each hairdresser would boast of a 'tour du metier' ('trick of the trade') whereby his beauty preparation had that 'something' which made it just a bit superior to his competitor's. The goods, therefore, were merchandised practically exclusively in the maker's own establishment.

"But here in America the need for the hairdressing services of the 'hairdresser' was negligible—there were no kings surrounded by myriads of cortiers which created the elaborate courts wherein the men's dress—including that of the hair—put to shame that worn by milady today. Hence, our census was only one 'hairdresser' for many, many thousands of inhabitants. But, as our culture grew, the demand increased. The demand for beauty products grew too. A hairdresser's goods, if of good quality, gradually built up demand so that even those who did not go to him for professional service, did buy his cosmetics. And, because of the mobility of our people, the goods were often taken afar by a lady, to be applied by the hairdresser where she migrated. This gradually caused other hairdressers to send for them, especially so since the evolution then going on was gradually extinguishing the role of the hairdresser as a cosmetic manufacturer. No wonder! The era of 'extra hair' was on the ascendency. The hairdresser's whole time was taken up in making switches, puffs, chignons, ringlets, braids, etc., which milady piled one atop the other on her head to such extent that by 1910 she had to wear a hat so large that a cartoon depicted an obliging carpenter sawing slots into the door frame of a street car doorway so that the rim of her 'Merry Widow' hat could safely pass through!

"Now, what was going on in the 'Drug Store?' That magnet, 'Ice Cream Soda' had come into being. Strangely, the 'fountain' makers hit upon the 'drug store' as a logical outlet because it sold medicinal, mineral and refreshing waters and medicinal candy, and because it remained open longer hours. Thus started that great transition which resulted in the 'drug store' selling most everything except drugs.

"Item after item was taken over by 'druggists' so that slowly, boxes of face

An 1892 picture of the Godefroy place of business in St. Louis. Note that at that time this beauty shop was also the "Maker of Velveton Face Powder . . . Freckles Remover".

The Cosmetic Trend

It has been said that small-town merchants are generally slow to respond to sales suggestions. This may be the case normally. But it is not so now, when their rising cosmetic sales, with supplies assured, are about the only steady money maker, with no headaches attached. With fewer salesmen calling the small merchant has relied more and more upon the mails and his trade press for information, and this goes for many larger store buyers as well.

It appears that cosmetic manufacturers can look forward to an increasing interest for men's cosmetics during the next months or so. The subject of the man-customer is frequently raised in conversations in buying offices largely because of the comparatively good response of men-buyers to men's lines.

Two points are made in favor of giving increasing attention to the man customer. (1) That war-worker men, recruited from the middle class, are more conscious of the need of applying cosmetics to preserve their appearance and standards of personal nicety. (2) That with the return of the Army millions of men may want to spruce up for a while and will be heavy buyers of all the things that men generally (shaving aids, toilet waters, hair aids, etc.), plus such extras as they may have become accustomed to in the Army, or which they will adopt after their coming home.

Specially designed men's cosmetics are preferred, for the women who do much of the cosmetic buying for their men, generally prefer a "men's product." Besides, there is a growing market now for men's cosmetics in the many men's specialty stores which are looking for sidelines.

powder stood where horehound candy had reposed and face cream jars where Citrate of Magnesia gathered dust!

"And the 'Beauty Shop' (which name came into existence about the time of the 'permanent wave') began to sell less and less of these products, but more and more of their 'time.' At a dollar a curl in those days, some even exceeded the earnings of a union bricklayer.

"Perhaps you may wonder why I recite this. Well, it's because I happen to have been born in the 'beauty shop' division of the cosmetic business and can still remember the days when drug stores sold drugs! Our sixty-two year old cosmetic business originated in my father's 'Hairdressing Establishment' which he founded back in the Spring of 1882. Most of its history has been in my own lifetime. And, as an example of the ancient and honorable art of cosmetic sales promotion, the files of our St. Louis newspapers still carry copies of my father's ads, way back when grandmother's mother was still a girl, showing exploding boxes of face powder, with the 'copy' explaining that since the invention of smokeless powder would end all wars, how, then, would nations salute each other? Answer: By substituting sailors with lovely ladies, so that when they met on the high seas, instead of exploding powder in salute, the ladies would exchange—boxes of Godefroy's Velveton Face Powder!"

Deceptive Face Powder Boxes

It is no credit to this industry that Dr. P. B. Dunbar, Commissioner of Foods and Drugs, has had to bring up the subject of deceptive face powder boxes again. Boxes which are obviously oversize not only represent a serious waste of a critical material but are also poor business. It has been our observation that the woman who buys a big box and then discovers its small contents is furious at being fooled and resolves that it won't happen again. The following is bulletin 719 of the Toilet Goods Association which opens with a letter from Dr. Dunbar on this subject.

"From time to time our attention has been called to face-powder boxes under the so-called deceptive container provision of the Federal Food, Drug, and Cosmetic Act because of the excessive space in the lid for a powder puff.

"You will recall that when you visited the Administration in January 1940 there was a discussion concerning the space left in the lid for a powder puff and that as a result of the conferences held at that time Bulletin 194 entitled 'Face Powder Boxes and the Deceptive Container Question,' dated January 23, 1940, was issued by you to the members of the Toilet Goods Association, Inc. At the time of your visit it was brought out that the user of the small face-powder container usually wished to insert a powder puff after purchasing the article. We were not disposed to dispute this statement and we did not insist that the space be eliminated. We did say, however, that the space allowance should be only sufficient for a thin puff.

"Recently we have observed face-powder boxes, particularly sizes larger than the ten-cent size, where the space allowed was quite unreasonable and obviously the container was not designed for a thin puff. Also we have received information that puffs are seldom placed in these boxes and that the package is not carried around like a compact. Even if the purchaser should desire to place a puff in the box at home space allowance would be unnecessary since there would appear to be no objection to a slight elevation of the lid under the conditions of use. In many cases the manufacturer has tried to justify an excessive space for powder puff by placing *inside* the lid some statement such as: 'Extra space has been allowed in the cover of this box for your powder puff.' We have recently observed several face powder boxes with tight-fitting covers and no space allowed for the puff.

"It appears to us that it would be advisable to restate Bulletin No. 194, emphasizing the fact that it was intended to apply only to the ten-cent size and that the 'rule of reason' mentioned in the last paragraph is not being followed."

"Following Dr. Dunbar's suggestion and for the information of members of the industry, we also reprint part of Bulletin No. 194 of January 23, 1940, relative to the same question:—

"In an interview with Dr. Dunbar of the Food and Drug Administration concerning this question, Dr. Dunbar said:

> 'There has been no court decision interpretative of the deceptive container provision of the Act. Without such decision, there is no guide other than the language of the Act and the common sense application of its spirit and letter which will aid the industry or the Administration in determining where the line is to be drawn between legal and illegal containers. The Food and Drug Administration is not authorized to approve any particular form of container, and cannot undertake to do so.
>
> 'In the legal actions which have been instituted under the deceptive container provision up to this time it has dealt with extreme cases in which it believes there would be no difference of opinion as to the in-

Beauty

Cosmetics in H-A Opal Jars
mean quality to the purchaser.
Their beauty and economy
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HAZEL-ATLAS GLASS CO., *Wheeling, W. Va.*

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POSTWAR PACKAGING FILE

P

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Coated Lithwite is the original paperboard made and coated in one continuous, economy operation. Years of wide use and constant improvement have given merchandising approval to this exceptional board.

W

UNUSUAL WHITENESS

A special mineral coating gives Coated Lithwite a basic whiteness that makes it stand out on the shelf or counter... imparts a velvety softness not present in many more costly boards.

P

BRILLIANT PRINTABILITY

Coated Lithwite's even surface takes inks smoothly with finer definition of detail. No background muddiness to rob colors of tone and brilliance. No chalkiness. Less ink absorption.

DEPENDABLE FOLDING

Fewer jam-ups in high speed filling machines with Coated Lithwite. It folds and scores accurately without shattering or flaking. Takes a positive, tight seal.

This brilliant, time-proved, economy paperboard, today, bears the imprint of many famous products. Gardner-Richardson would like to make it available to you *now*. But all we can do, at present, is the next best thing . . . promise you that *Coated* Lithwite will be available in greater quantity in the postwar days when your product will need all the eye-appeal and buy-appeal you can pack around it.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard, Middletown, Ohio

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

herently deceptive character of the container.

'Industry representatives contend that the user of the small face powder container usually wishes to insert a powder puff and that sufficient space should properly be left in the lid to accommodate such puff. There may be some ground for this contention. The Food and Drug Administration is not disposed at the present time to insist that such space must be absolutely eliminated; certainly, however, it would expect that a rule of reason should be applied and that if space is left for the accommodation of the powder puff, it should be moderate and sufficient only to accommodate a this puff. In other words, any tolerance that might for the time being be admitted as permissible should not be considered a justification for a conclusion that unreasonably large space in the lid is permissible.' "

"Dr. Dunbar's letter deserves the careful consideration of every face powder manufacturer inasmuch as the Food and Drug Administration has begun an aggressive campaign against deceptive face powder containers and Dr. Dunbar has concisely epitomized the law on the subject."

Wood or Plastic

The wooden compact has been standard for Models' Special make-up ever since it was first introduced to the public, but now Models' Special is available in one of the handsomest plastic containers we have ever seen. The new plastic container is a handsome, very slim, fawn and dubonnet case. Despite its apparent thinness, it holds exactly the same amount of make-up as the wood compact, namely, 1¾ ounces, and the price in each case remains the same, $1.50.

Men's Lines Post-War

One manufacturer of men's toiletries is not pessimistic about the post-war market in spite of the fact that he believes this branch of the industry will get the worst tossing about of any cosmetic product. His analysis of the situation is that, although men's toiletries have had a larger, proportional expanding market than any other type of cosmetic, so many manufacturers have entered this field during the last two or three years that there will be no possible room on retailers' shelves for a very considerable proportion of them even assuming a demand from the public exceeding by 25 to 30 per cent the demand that existed in 1940 and even taking into consideration the fact that most stores are giving a great deal more space and attention to men's toiletries than they ever did before. His reason for optimism is based not only on the fact that this market has been materially expanding and will continue to expand substantially after the war but also on the basis that there is quite a substantial men's market that has not yet been reached by any of the men's lines.

It has always been known in the industry and considered by many as pretty much of a joke that very many men are using various types of cosmetics such as deodorants, not from any men's line but as a surreptitious raid on their wives' boudoirs when nobody is looking. This manufacturer has made a tentative survey and is convinced that there is a very substantially large number of men who in this way use a number of cosmetics, including creams and powders and deodorants and other cosmetics, and who have not been reached at all by the men's lines. He is laying his plans to reach them on a frank appeal that there is no reason or occasion for this surreptitious raid on the boudoir, that the products included in the men's lines are designed for men and not for sissies and that there is not the slightest reason for feeling any loss of dignity in openly and frankly using any type of cosmetic included in the line. This manufacturer believes that he can at least hold his place in the turmoil of business competition that will follow the war and find a suitable expansion for his business in tapping what he calls the unexploited market for men's goods.

There has been very little discussion as yet in the industry regarding the possible market that will open up with the returned soldiers. Over 6 million men now in uniform will be returning to civilian life and of these probably two or more million men will have seen action, in some cases severe combat extending over a considerable period. Experience in the last war and reports from other countries indicate that in many cases the result of long, severe mental and physical strain will have profound effects on the appearance of many of these boys. Some of them left civilian life at the beginning of the war, just after graduation from college, some of them in the prime of their youth from a few years' business experience. In many cases they will be returning with streaks of gray in their hair, lines in their faces, many with facial scars, strained eyes and other physical defects, some superficial and some deep that will make a great many of these boys look many years older than they actually are. Many of these boys will return to civilian life in appearance old young men, facing the problem of procuring a job at the beginning of their business career which means junior salesmen, junior accountants and many other junior fields. They will face courtship and marriage and the founding of a home and all other social contacts often looking years older than they actually are.

Some thought has already been given to this question in the industry. It is worth further analysis because, if the cosmetic business and particularly the men's lines can contribute anything here, it means not only a substantially new and different market but in addition a very worthwhile thing.

Metal Lipsticks

The war-time metal lipsticks are slowly making their way to the cosmetic counters. Dorothy Gray appeared to be among the first, with Barbara Gould, Matchabelli, Louis Philippe, following. Now Yardley announces its latest war-time creation. The container is as at-

GLASS FURNACE WITH A "SEEING EYE"

Research enlists almost magic controls in its tireless search for better glass

FOR centuries, glassmakers took the temperature of their furnaces "by eye." They had to gauge it as accurately as possible just from a look into the furnace, because no known thermometer could measure the intense heat—often more than 2600 degrees Fahrenheit.

Today, in Armstrong's experimental glass furnaces, temperatures are still taken "by eye." But it's a different kind of eye. It's a mechanical eye, poised high above and to one side of the furnace. A lens in this eye is focused—through the center opening in the furnace—onto the glass in one of the crucibles being heated. The changing color of the melting ingredients tells this "seeing eye" the temperature of the glass, just as it used to tell the old-time glassmaker. Only, of course, with scientific precision.

Besides measuring temperatures precisely, today's "seeing eye" records them. It's connected electrically to a recording chart, which inks-in a permanent record of each furnace "run."

The use of modern instruments like these gives Armstrong's engineers, physicists, and chemists a high degree of control over experimental conditions in the glass laboratory. Such instruments, plus long years of technical training and experience, are part of the secret of the success of Armstrong's research workers in making and keeping Armstrong's glass top quality.

Other sidelights on the equipment and experience that are required to make fine glass are interestingly presented in Armstrong's new booklet, "Men and Glass." For your free copy, write Armstrong Cork Co., Glass and Closure Division, 3807 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

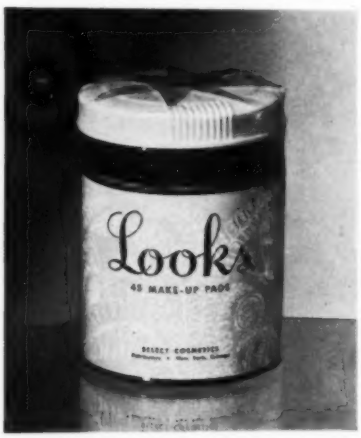
and **ARMSTRONG'S CLOSURES**

tractive, durable and practical as the pre-war number and just as light weight, a particularly desirable feature. Interesting too, is the fact that the Yardley new metal lipstick is jumbo sized. Made of government released metal, the entire case is brass-finished to give a rich, gilt effect. There is a vivid red enamel band circling the stick near its base. A decorative paper band that goes the rest of the way, printed with the original Bond Street motif, completes the design. The quick swivel action of this Bond Street lipstick—a single turn of the wrist—should be appreciated. In six shades, the metal lipstick will make its debut in August at $1.00 retail.

Foundation in New Form

It has taken long years for women to recognize the importance of using a powder base or make-up foundation. The extensive advertising put behind the cake make-up during recent years has done more to make women foundation conscious than all of the other foundations on the market ever did. The cake make-up foundations sky-rocketed to fame through the advertising medium and are now being sold and used more than any other type of foundation. Whatever may be said about the disadvantages of cake make-up, it has taken hold because of the grand cover up job it does for the skin. The pros and cons about the drying effects of this type of foundation gave rise to the "liquid cake" preparations which claim the cover up qualities minus the drying qualities. The market so far isn't as cluttered with the "liquid cake" foundations as it is with the water appliable variety, but from all indications, those on the market are enjoying a very fair measure of success.

Application of either of these types did not appear to present a problem. However, Select Cosmetics of Chicago, evidently gave this angle some thought, and now offer a "cover up" type of foundation not in a cake, not a liquid, not a cream, but in make-up pads ready for use. "Looks" as they are called, are pads saturated with a liquid cream which spreads a smooth, thin film over the skin—not a heavy mask-like covering. One pad is sufficient to blend all over the face and neck. There are four shades, Blush Rose, Tea Rose, Rose Blend and Tahitian. The jar holds 45 pads and comes with a separate purse size container so that the pads may be carried. The price is $1.50 complete.



Department Stores Do 44 Per Cent of Cosmetic Business

More than 150,000 Greater Milwaukee families, or 67 per cent of the total number, regularly buy their drug products at independent drug stores, an increase over the 63.8 per cent of 1943. Chain drug stores are patronized by 22.2 per cent and 8.7 per cent buy their drugs at department stores, according to the Milwaukee Journal's "1944 Consumer Analysis of the Greater Milwaukee Market."

When it is a question of buying cosmetics and toilet preparations the department stores had the greatest percentage of the business in 1944—43.9 per cent. Twenty-four and two tenths per cent bought their cosmetics from independent drug stores; 15.6 per cent from chain drug stores and 8.7 per cent from the syndicate stores.

During the year vitamin tablets or capsules gained nearly 25,000 new family users. Of the families interviewed 33.9 per cent used vitamin products in 1944 as against 23.8 per cent in 1943.

Tooth paste dropped in popularity to 58.2 per cent in 1943 but this year shows an increase to 59.2 per cent. Colgate, Pepsodent and Ipana, in that order, continue to be the favorite brands. The use of tooth powder which had been increasing steadily for several year , declined slightly to 55.4 per cent this year. Dr. Lyons is still the favorite brand with 44.5 per cent of the users; Pepsodent claimed 15.8 and Colgate 12.2. The use of liquid dentifrices continues to gain. This year they were used by 18.2 per cent of the families interviewed and Teel is still the overwhelming leader, claiming 83.9 per cent of the users.

Regular shaving cream was used by 37.3 per cent of the men; brushless shaving cream by 23.3. Palmolive shaving creams was used by 33.6 per cent; Lifebuoy by 13.4 per cent and Williams by 13.1 per cent. The most popular brushless shaving creams were Burma Shave, Palmolive, Barbasol and Molle.

Liquid shampoo is now used by 63.4 per cent of the families, continuing a steadily upward trend. Drene is still the favorite, being used by 33.3 per cent. Fitch's accounted for 22.3 per cent.

White Cosmetic Stockings

In May when we were speculating upon the different varieties of leg make-up which might find a market we completely overlooked white leg make-up. They tell us on Beauty Fashion that there have been many inquiries for a company which might supply a white leg make-up. Seems that the nurses, etc:, whose regulation uniform calls for white stockings could use a white make-up.

Holiday Merchandise

Holiday lines are pretty much in readiness. Bourjois, as usual, is among the first to have all of its presentations on display, Evening in Paris, Mais Oui, Skylark and Courage. The gift sets outwardly look very handsome, but comparatively, there is a marked difference in the appearance of these wartime packages. In the first place, Bourjois has cut its gift set line at least in half. Secondly, in order to save paper board, the merchandise is compactly placed into the gift boxes so that the size of each is very much smaller than it has been in years past. As a matter of fact, many corners have been cut but all the Bourjois lines have been so cleverly packaged that to the layman the difference will not be particularly apparent.

Will the can that sprays TNT at Panzers spray the ants in your plants?

● It's an uncanny can. It wrecks giant tanks and other mechanized monsters. It's also used as a delayed-action land mine . . . a demolition charge . . . a booby trap.

Yet this new high explosive weapon is small and light enough to be carried in a soldier's pocket as a hand grenade!

You and this can are old friends. You, too, have used it to eliminate pests. Before the war it was a can for insecticides. After the war, it will again carry chemicals to protect your garden against insects, your clothes against moths, your children against infection.

It will carry new and better insecticides, too. (The industry is learning lots of new things in this war!) And these insecticides will come to you full strength—safely packed in cans.

To do our war job, we've developed new ideas and new skills, too. That's why, as we look ahead, we see *new and better things in Continental cans.*

POST-WAR PLANNING: We'll be glad to discuss future uses or improvements of your product or package and help in your post-war planning. Write Post-War Planning Dept., 100 E. 42nd Street, N.Y.C., or Continental Can Company of Canada, Limited, Montreal.

CONTINENTAL CAN COMPANY

NEW AND BETTER THINGS IN CONTINENTAL CANS

Awarded to Plant 78, Chicago • Illinois

ARMY E NAVY

SAVE TIN CANS—HELP CAN THE AXIS

Store Re-Design

The number of those who are planning to do something about the appearance of their retail establishments increases every day. Most of them, it is true are making their plans for after the war although certain of the chains have already set up some model units. A few department stores have done bang up jobs with their cosmetics departments but many more are on the books for post-war and even more should be doing something about mid-victorian methods of display and handling people.

Now comes Dr. E. L. Newcomb of the National Wholesale Druggists Assn. to announce a post-war program for the drug industry involving rebuilding and modernization of 55,000 retail drug stores. "Now is the time to start drawing plans, so that rebuilding can begin as soon as materials and manpower are available," Dr. Newcomb declared in revealing that the wholesalers, in cooperation with the Druggists' Research Bureau and representatives of retail groups, are planning to sponsor preparation of detailed blueprints to guide the pharmacist in re-designing facilities so as to improve merchandising and the handling of personnel and customers.

Ingenious Applicator

Miner's is advertising "Appliodine" in the British drug papers, which, as the trade-marked name implies, is the "advanced way to apply iodine." As a matter of fact, this applicator package is one of the most ingenious we have seen. Briefly, the applicator is a wick feeding through a specially constructed inner rubber stopper. According to the copy, "the slim bottle has a fitted fountain brush head (Patented) with a controlled feed ready for instant and accurate application." The photograph nearby shows the package and also Miner's "Lipid" a liquid lipstick which also makes use of the same applicator.

Although the company has U. S. and Canadian patents as well as British, according to Myram Picker, president, Miner's has been forced to delay the marketing of the products in this country for the duration.

Sulfa Unit Packaging

Abbott Laboratories is introducing sulfathiazole "Sterilopes"—a special double envelope containing a freely flowing granular form of sterile sulfathiazole suitable for local application to wounds. Each "Sterilope" (Abbott's sterile envelope) consists of an outer sealed envelope and an inner envelope with sifter top, containing 5 grams of sterile sulfathiazole powder.

For local application to wounds, or for other purposes where such sterile powders are indicated, sulfathiazole "Sterilopes" form a convenient method of application.

Add Vitamin Statistics

We take our statistics where we can find them so without prejudice we give you an annual vitamin market of $250,000,000. The figure is taken from a speech by Dr. Herman L. Kretschmer new president of the American Medical Association who is quoted as follows:

"Certainly the people in this country are not in such a state of malnutrition as to require the use of $250,000,000 worth of vitamins." Although conceding that impressive advances had been made with vitamins, he added that "the excessive claims made for vitamins are beyond any basic medical evidence."

Drug Sales

According to "The Index," published by the N. Y. Trust Co., volume of drug sales in 1943 was $800,000,000 which represents an increase of 55 per cent since the war began. This source says that vitamin sales account for about a fourth of this dollar volume and assert that every third customer who enters a drug store buys vitamins of one kind or other. A trend towards self-medication also accounted for many sales, it said, stating that "there are more than 1500 counties now without a doctor. With at least 50,000 physicians in the armed services, only 100,000 remain in civilian practice.

The article went on to say that in drug stores drugs are still the main source of revenue, with sales over the prescription counter in 1939 accounting for 55.2 per cent of total receipts. One of the biggest items here, mushrooming from insignificant proportions in 1937, is due to the demand for sulfa drugs, which is bringing in millions. Penicillin also has great potentialities, the Index concluded.

Trend Toward Toilet Water

It has taken a war for toilet water to stage a come-back. Cologne has had to take a back seat of necessity and so be it! For years so-called colognes have menaced the sales of perfumes and toilet waters. It is true that cologne in its original form, that is with a citrus base, was a wonderful freshener; with perfume added it was a freshener as well as a scent carrier. However, came the day when all sorts of alcoholic concoctions with a little scent added were called colognes. Sizes grew larger and prices lower, until most everyone lost sight of what a cologne was originally intended for. Colognes got to be just something that could be bought in large quantities for a dollar and even less, dashed on lavishly, smelled good for a very short while, and then faded fast away. Toilet water, on the other hand, is simply a lighter version of a perfume; it can be used more generously than perfume and makes an excellent summertime scent which doesn't fade quickly. It doesn't last as long as perfume should, of course, but since it can be used more lavishly because it costs less, it will go a long way toward keeping one scented.

Mary Dunhill has taken advantage of the season and the trend to present Escape toilet water, a lighter version of Escape perfume but with the same heady, haunting fragrance. It's lighter; cooler and especially designed for those who like to use their perfumes lavishly. It's a good gift suggestion too, as it comes attractively packaged in a blue and gold combination similar to the original Escape perfume. Priced at $5 for three ounces.

LOOKING INTO THE FUTURE
When you think of bottles
think of
Swindell
Machine made and hand made
glass containers for cosmetics,
drugs and beverages.
SWINDELL BROTHERS, Inc.
BALTIMORE, MARYLAND
200 FIFTH AVENUE, NEW YORK
ROBERTO ORTIZ—HAVANA, CUBA

What to do about Closures? Use

DODGE TAPER CORKS

TAKE an *effective* cure for your present closure headache . . . switch to Dodge Taper Corks.

Why cork? Because cork is available in abundant quantities, assuring continuous supply.

Why taper corks? Because standard size taper corks to fit any standard glass container are readily obtainable.

Why effective? Because cork is a reliable closure material . . . does an air-tight sealing job. And because this type of closure is adapted to many types of standard containers.

Why Dodge? Because Dodge can meet your requirements on quality, quantity and service.

What to do first? Write Dodge today, specifying types, sizes and quantities.

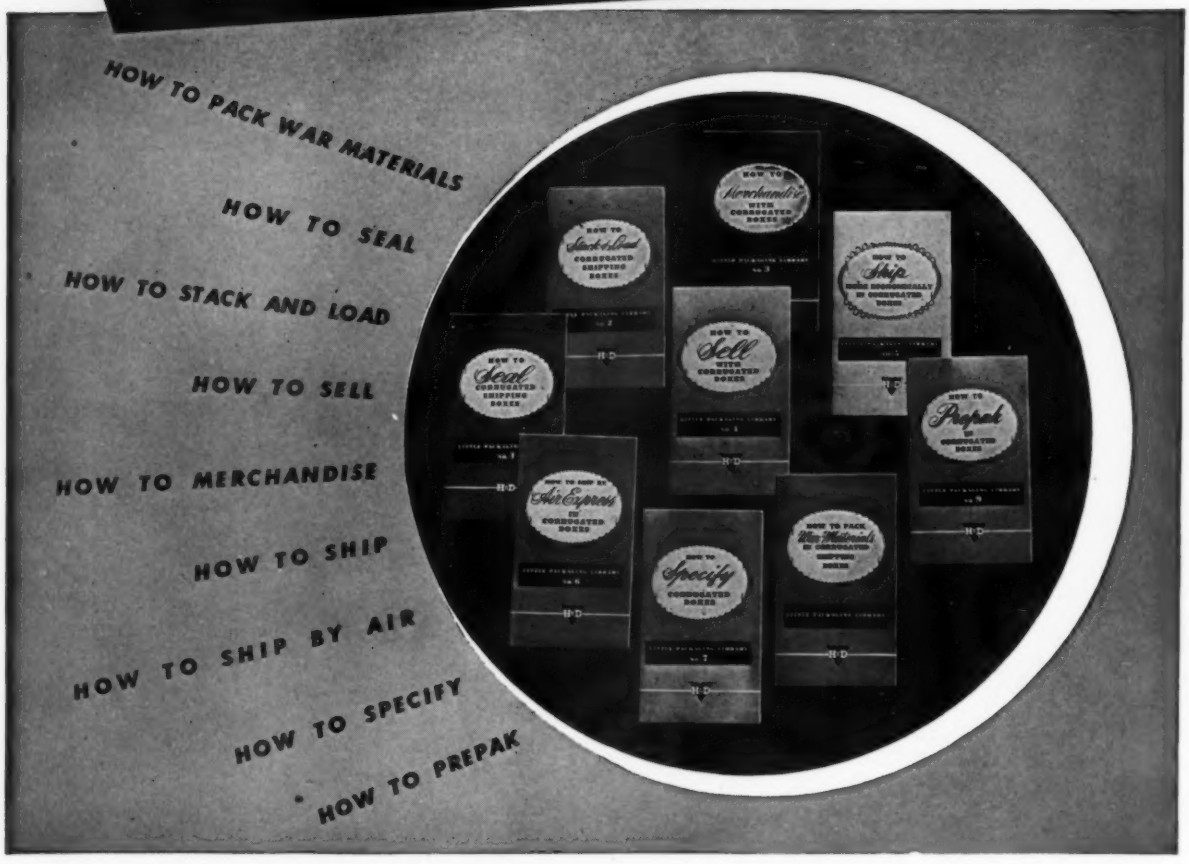
DODGE CORK COMPANY, INC., LANCASTER, PENNA.

Someday—soon, we hope—Dodge Milbossed Top Corks will again be available in unlimited quantities. Until that day comes, Dodge true-to-grade taper corks will satisfactorily meet your closure needs. And Dodge can assure you prompt, dependable service.

DODGE CORK *Closures*

Designed to Guard the Integrity of the Contents

9 WAYS TO BETTER POST-WAR PACKAGING



H & D Little Packaging Library—FREE on Request

Packaging war goods — that's the all-important task of H & D today, BUT H & D's war-time activities are bringing a wealth of valuable experiences, and an abundance of new packaging skills and techniques that will have a great and good effect on the progress of post-Victory packaging.

With packaging trends constantly changing and packaging materials under continuous development, H & D published its Little Packaging Library to make your entire packaging procedure more efficient. The "Library" presents the packaging experience of hundreds of manufacturers and contains many real contributions to improved packaging and shipping methods; to savings in materials, manpower, machinery and transportation facilities.

Whatever your packaging assignments are today — whatever they will be tomorrow, these booklets will prove of value to you and your organization. The booklets are FREE without obligation — write for as many sets as you need. Address Hinde & Dauch, 4477 Decatur Street, Sandusky, Ohio.

• • •

FACTORIES: in Baltimore • Boston • Buffalo • Chicago Cleveland • Detroit • Gloucester, N. J. • Hoboken Kansas City • Lenoir, N. C. • Montreal • Richmond St. Louis • Sandusky, Ohio • Toronto

For postwar packaging . . better see H&D **HINDE & DAUCH**

AUTHORITY ON PACKAGING . . . CORRUGATED SHIPPING BOXES

SHATTERPROOF SEAMLESS VIALS—

Clearsite

seamless and shatterproof CONTAINERS

No product is worth a nickel to the public if it fails to keep that product intact until it is completely consumed. A broken container—or a faulty one—means an irritated or a disappointed customer . . . That's why the shatterproof, SEAMLESS features of Clearsite Containers are steadily winning new friends among manufacturers AND consumers. Colorfully transparent or opaque; labelled in process of manufacture, they offer many advantages which would enhance your product. Ask our Packaging Specialists to suggest a suitable design.

CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

THE SECRET OF SUCCESS

A farmer, upon being asked by his young son how to succeed in life, replied: "Never carry a shotgun or your knowledge half-cocked."

If there is any single explanation of the steady progress that Carr-Lowrey has enjoyed since our establishment in 1889, it may be found in the fact that we have always taken great care never to carry our knowledge at half-cock.

Painstaking attention to the most minute details and continuous insistence upon the ultimate in accuracy and precision . . . these have ever been basic Carr-Lowrey principles of operation.

Out of today's swiftly-changing conditions one of the significant post-war trends that is clearly emerging is that the show-window advantages of glass containers are going to play an increasingly important part in mass marketing.

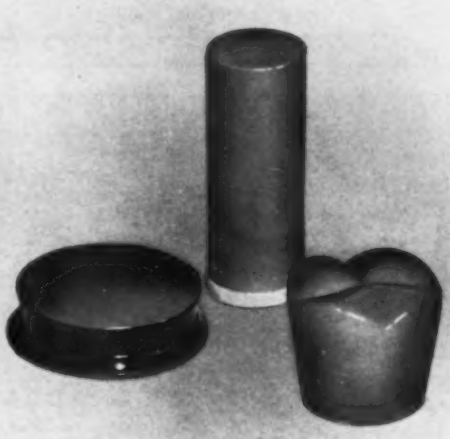
If such straws in the wind indicate the desirability of talking things over with glass-making men who carry their knowledge in an intelligently adjusted position, we invite your inquiries.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 FIFTH AVENUE • *Chicago Office:* 1502 MERCHANDISE MART

CONTAINERS and CLOSURES

by Fontaine



The beauty and dependability of plastics and wood in perfume and cosmetic containers have been proven by the enthusiastic response to the Fontaine line.

The Fontaine Lipstick Container

A swivel-type, thermoplastic lipstick container with patented features, specially designed. The cover slips on and off smoothly and is held firmly in place by a small flange at the base. Two-color combinations, if desired.

Other Fontaine Products

Closures . . . Rouge Boxes . . . Perfume and Cosmetic Specialties . . . in a variety of designs, sizes, and colors . . . made to your specifications in catalin—or wood, if desired.

FONTAINE
PRODUCTS CORP.
Art in Plastics
306 EAST 61st STREET • NEW YORK, 21

a new finishing technique

An exclusive development in the technique of lacquer spraying, created in our own laboratories, now provides a unique handling of your finishing problems. Designed for spraying wood, metal, plastics in any specified color, it is ideal for bottle caps, jar covers, compacts, and all types of specialty items for the cosmetic and perfume industry.

Our spraying department is at your service. *Write for detailed information.*

CONTAINER FINISHING
COMPANY
AN AFFILIATE OF FONTAINE PRODUCTS CORP.

1111 LEXINGTON AVENUE, NEW YORK, 21

POST-WAR SUGGESTION

THE EYES HAVE IT WHEN YOU PACKAGE YOUR PRODUCT IN LUSTEROID

More customers say "I'll take it," when they see your product encased in crystal-clear LUSTEROID vials and tubes.

Eye appeal and product visibility are only two of the many advantages provided by these modern plastic containers.

They are feather-light, yet strong, rigid and unbreakable. No protective partitioning or special packing are required. There are no labels to affix because your sales message can be printed as an integral part of the container. Shipping and handling costs are reduced materially. And a wide choice of colors, clear or opaque, provide free reign for package design.

Diameters from ¼" to 1¼" and lengths up to 6". Cork, slip-on or screw-cap closures.

Write for post-war details

LUSTEROID CONTAINER CO., INC.

Formerly Lusteroid Division of Sillcocks-Miller Company

Office and Factory

10 W PARKER AVENUE, MAPLEWOOD, N J

MAILING ADDRESS: SOUTH ORANGE, N J

SHEET METAL GOODS

SPRINKLER TOPS

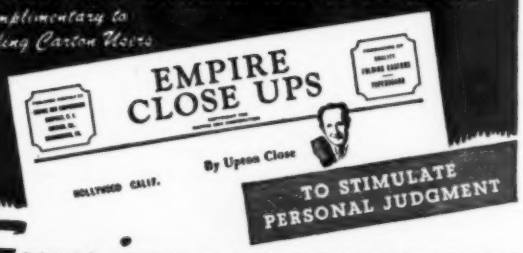
CORK TOPS DOSE CAPS

CONSOLIDATED FRUIT JAR COMPANY

NEW BRUNSWICK, N. J.

A MONTHLY NEWS ANALYSIS-FORECAST

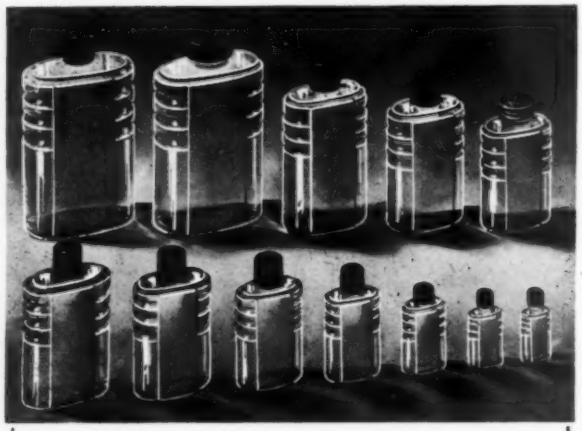
Complimentary to Folding Carton Users



TO STIMULATE PERSONAL JUDGMENT

Empire BOX CORPORATION

Offices—Garfield, N. J., Palmolive Bldg., Chicago
Plants—Garfield, N. J., South Bend, Ind. Mills—Stroudsburg, Pa.



Available TODAY to Those Building for Tomorrow

"the 275 line"

1 DRAM TO 33 OZ. INCLUSIVE

★ Generally available . . . always acceptable . . . recognized coast to coast as one of the finest bottle lines! We can take limited business from those firms whose products will permit and whose inclinations will favor business relationship in the future. Please state sizes, quantities, and product to be packed.

W. BRAUN CO.

302 N. CANAL ST. CHICAGO, ILL.

QUALITY TUBES
for essential needs

STANDARD TUBES

KEEP BUYING WAR BONDS

Standard
SPECIALTY & TUBE CO.
New Brighton, Pa.

Plan your Plastics Packaging Now!

All the sales appeal of Plastic Containers... alluring colors, convenience and satiny feel... will be available some day soon for unlimited use.

Soon, that is, for the manufacturer who realizes the vital importance of his postwar packaging problem... and makes his plans today.

As one of the largest and oldest molders of prewar closures, containers and lipstick holders in Plastics, we urge you to remember this. The first packaging items on our presses *tomorrow* will be the ones designed *today*.

Ever since we originated the screw-top Plastic Rouge Box here at Kurz-Kasch, we have specialized in Plastic Packaging for all types of cosmetics . . . for dry rouge, cream rouge, mascara, face powder, and lipstick. Ask today for information on stock molds or special custom jobs.

Meanwhile — don't forget to **BUY WAR BONDS!**

KURZ-KASCH

For over 25 years Planners and Molders in Plastics

Kurz-Kasch, Inc., 1421 South Broadway, Dayton, Ohio
Branch Sales Offices: New York • Chicago • Detroit • Indianapolis • Los Angeles • Dallas • St. Louis • Toronto, Canada
Export Offices: 89 Broad Street, New York City

A TOUGH FILM-FORMER

THAT'S WATER SOLUBLE!

Extraordinary film-forming ability makes Methocel a most useful material. It produces tough, flexible films that are clear, colorless and free from taste or odor. Of outstanding importance—Methocel films are soluble in water—a unique and valuable property that suggests a variety of new uses. For other jobs, resistance to water can be increased.

Methocel films or coatings are unusually stable to discoloration or attack. They are also neutral and non-toxic and are easily plasticized where extra softness is required.

METHOCEL

THE ECONOMICAL, WATER SOLUBLE THICKENER

While Methocel is used most often as thickening and stabilizing agent in water and emulsion preparations, its film-forming properties indicate its wide range of usefulness in cosmetic and pharmaceutical products. These properties make possible the formation of continuous films—an advantage rarely found in other water soluble thickeners. Thus, in protective hand creams, cosmetic stockings, hair lacquers and many other preparations, Methocel performs several functions important to the success of the product. Complete data available on request.

THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

METHOCEL

Other Dow products include: Synthetic Aromatics, Dowicides, Propylene Glycol, Paradow and many other chemical materials.

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY

NEWS

Dr. Kelly to Retire from A.Ph.A.

Dr. E. F. Kelly, secretary of the American Pharmaceutical Association for nearly twenty years, has announced his intention to retire. At Dr. Kelly's request, plans have been made to select his successor not later than the 1945

DR. E. F. KELLY

association meeting. A. Ph. A. representatives will appoint a committee to select nominees for consideration by the council.

During his tenure of office Dr. Kelly has played a key part in pharmaceutical progress on such projects as strengthening state associations, pharmacy corps bill, higher educational standards, proper food and drug legislation, higher drug standards, fair government regulations, inter-professional relations, adequate recognition of pharmacy and pharmacists by government agencies and public health legislation.

Although giving up his official post, he does not plan to discontinue work for the association's professional and scientific objectives.

New Plant

Schratz, Inc., has moved into its new, modern three-story plant, which is now in full operation. It is located at 1427 Randolph St., Detroit, Mich.

Dr. Thomssen Now a Consultant

E. G. Thomssen, Ph.D., 306 Center St., Winona, Minn., has announced that he is now available as a consultant to manufacturers, specializing in the fields of insecticides, disinfectants, floor waxes, soaps and allied products. His twenty-

DR. E. G. THOMSSEN

five years of experience in both large and small scale plants has equipped him to advise on plant lay-out, equipment, design, product formulation and costs and general plant problems.

Dr. Thomssen severed all connections with the J. R. Watkins Co., Winona, on June 1. He had been chief chemist for that company since July 1923, but had been inactive since December 1, 1943.

Heyden Moves Offices

Heyden Chemical Corp., New York, has moved its offices to the Equitable Life Assurance Society Building, 393 Seventh Ave. The building faces Pennsylvania Station and extends from 31st St. to 32nd St. New telephone number is PEnnsylvania 6-9000.

Theile Coming to Office

Fred C. Theile, president of P. R. Dreyer Inc., New York, has now recovered from his ten months' illness sufficiently to be able to go into his office several times a week.

Lever Bros. Buys Pepsodent Co.

The Pepsodent Co., has been acquired by Lever Bros. Co., it has been jointly announced by Francis A. Countway, president of Lever Bros. Co., and Charles Luckman, president of Pepsodent.

Pepsodent will operate as a separate division of Lever Bros. Co. and will con-

FRANCIS A. COUNTWAY

tinue under the direction of Mr. Luckman as president. Its headquarters and plant will remain in Chicago. By the end of this year, the entire drug sales department of Lever Bros. Co. will be merged with the Pepsodent sales organization. At that time, the new drug sales organization will handle the distribution of Pepsodent products and the drug products of Lever Bros. Co., which are Vimms and Lifebuoy shaving cream. In addition the drug sales or-

CHARLES LUCKMAN

ganization will handle the distribution in the drug field of Lux, Lux toilet soap, Lifebuoy and Swan.

Aller Joins Handleman Drug

Edward R. Aller has joined the Handleman Drug and Sundries Co., Detroit and Cleveland, as general manager. He was for many years with Towns and James, Inc., Brooklyn, and more recently with Lag Drug Co., Chicago.

Allied Products Expands Plant

David H. McConnell, president of Allied Products, has announced that the company has been forced to expand beyond the limits of the Suffern, N. Y. headquarters.

Manufacturing and manufacturing controls continue at Suffern under the direction of W. Van Alan Clark, vice-president in charge of production in the United States and Canada. Much of the assembly work will be transferred to a plant at Middletown, N. Y., which the company has just bought.

George I. Hackenberger of the Suffern staff has been appointed manager of the Middletown assembly plant. He will be assisted by Rufus Duvall, also of the Suffern staff and several other key employees who will serve as the nucleus for the new staff of 260 employees.

Ruskin Enters Associated Distributors

The formation of a new corporation to own and operate Associated Distributors has been announced by Lewis J. Ruskin, president of the new concern.

J. Leslie Younghusband, founder of Associated Distributors and developer of its various cosmetic lines, will remain as chairman of the board of Associated Distributors, Inc., the new company. He will also head an individual company which has been set up to operate the Dana Perfume business, formerly an affiliate of Associated Distributors.

Associated Distributors will manufacture and distribute the Chen Yu line, DeWans depilatory, 5 Day underarm pads, 5 Day creams and Quickies. The Dana Perfume Co. will manage and

LEWIS J. RUSKIN

operate Tatoo, Savage and Tabu lines of perfumes and cosmetics.

Sales of both companies will be handled through Associated Distributors, Inc. The advertising and packaging of all products of both companies will be under the direction of Mr. Younghusband.

Mr. Ruskin, new president, is president and founder of the Ford Hopkins chain of drug stores. From a single store founded by him at the age of twenty-four in Sterling, Ill., the chain has grown to include fifty-three retail drug stores in five middle-western states. The new company has no connection with the Ford Hopkins Co.

J. LESLIE YOUNGHUSBAND

For the past two years Mr. Ruskin has spent most of his time in Washington in the War Department as consultant to the Quartermaster General and chief of supply planning and control in military planning. During 1942 he was consultant to the Office of Price Administration and a member of the Industry Council.

Ph. Chaleyer Booklet

Ph. Chaleyer Inc., New York, has issued an extremely attractive booklet, illustrated with line drawings and exceptionally fine photographs. It starts out with a short history of the essential oil and aromatic chemical industries and then has sections devoted to aromatic specialties, fixatives, essential oils, aromatic chemicals, manufacture of alcoholic toilet preparations, perfumes for cosmetics, and flavors. Each of the Chaleyer products is described and the purposes for which it is best suited are given. Copies are available upon request.

La Wall & Harrison Move

La Wall and Harrisson, consulting chemists, have moved to new quarters at 1921 Walnut St., Philadelphia, where greatly expanded laboratory facilities are available.

The firm was founded in 1870 by Dr. Henry Leffmann. In 1904, Dr. Charles H. LaWall became associated with the organization and in 1918 Dr. Jos. W. E. Harrisson joined the staff as an assistant. The firm name was changed to LaWall and Harrisson in 1927.

Herman Meyer Forms Hormorgano Corp.

Herman Meyer, founder and president of the Herman Meyer Drug Co. and Helion Chemicals Corp., has announced that he has severed all connection with the companies, and has organized the Hormorgano Corp. The new company, which will manufacture fine organic chemicals and hormones, buy and sell, import and export pharmaceuticals, is located at Van Wyck & Atlantic Ave., Jamaica, N. Y.

Gelatin Products Now Corporation

Gelatin Products Corp., a Michigan corporation, has been formed and has taken over Gelatin Products Co., a partnership. Operations will continue under the same management and ownership. Officers of the new corporation are: president, Robert P. Scherer; vice-president, Gerald L. Smith; secretary-treasurer, Edward Johnson. In addition to the officers, Dr. Edwin F. Pike and M. L. Scherer are members of the board of directors.

Bristol-Myers Appoints Riordan

Burton Riordan, a member of the sales staff of Bristol-Myers Co., New York, for the last nineteen years, has been named branch manager of the company with headquarters at 919 Republic Bank Building, Dallas. He replaces Claude M. Crawford, who is retiring after thirty years with the company.

Mr. Riordan is a native of Kentucky and, following his graduation from the Indianapolis College of Pharmacy, he

BURTON RIORDAN

worked for two years for Kiefer Stewart Co., wholesale druggists, and then returned to the retail business. In 1925 he became a sales representative of Bristol-Myers and has covered the drug trade in West Virginia, Kentucky, Ohio, Tennessee, northern Mississippi and the eastern Arkansas Delta.

From an official U. S. Marine Corps photo

Measured purity..to help them live!

Blood plasma has been headline news for some time. It has saved the lives of thousands of men in the armed services.

Less spectacular and less publicized than blood plasma, is Human Serum Albumin. This life-saving serum, more concentrated than blood plasma, is considered superior in certain cases by many authorities.

This is but one of countless war-time medical products which come from the pharmaceutical houses of America.

Many of these products began with a fine chemical, or several fine chemicals, of exacting purity. And the purity of the fine chemical assured the quality and efficacy of the product.

In Human Serum Albumin Baker supplies a fine chemical of measured purity — measured to exacting standards.

For nearly 40 years Baker has built its chemical business on measured purity. That is why leading pharmaceutical and drug companies choose Baker as a source of supply. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing.

Today this measured purity helps our wounded boys in service live!

J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N. J.
Branch Offices: New York, Philadelphia and Chicago.

For Victory Buy United States War Savings Bonds and Stamps

5th WAR LOAN

Baker's fine chemicals

PENN-DRAKE WHITE OILS AND PETROLATUM

Blend-ability and unexcelled Purity, the result of Penn-Drake's laboratory controlled refining process that produces petrolatums and white oils which maintain correct viscosity to resist oxidation and stock deterioration, with high stability, smooth quality, colorless and freedom from undesirable oily-tastes or color. Write us today for complete information on these quality products.

penn drake
petroleum products

BUY WAR BONDS

BACK THE ATTACK

PENNSYLVANIA REFINING CO.

GENERAL OFFICES · BUTLER, PA.

Makers White Oils (U. S. P. and Technical) Petrolatums (all grades and colors); INSECTI-SOL (deodorized insecticide base); Odor-Free and other Naphthas; Petroleum Sulphonates; Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils, and other petroleum products.

Lewis and Meyer—Penick V.P.'s

Dr. Thomas Lewis and Harold Meyer have been elected vice-presidents of S. B. Penick & Co., it has been announced by S. B. Penick, Jr., president.

Before joining the company as technical director in 1930, Dr. Lewis was

DR. THOMAS LEWIS

head of the School of Pharmacy at Cardiff, Wales. He has been active in the development of Penick's manufacturing and research departments for the bulk production of alkaloids, glycosides, natural and synthetic hormones, medicinal extracts, resins, oleoresins.

Mr. Meyer joined the company in 1926 serving in various capacities in the sales division. In 1934 he established a midwestern branch in Chicago and has successfully managed it since that time.

James G. Flanagan, secretary and general counsel has been elected a member of the Penick board. He has been

HAROLD MEYER

active on the legislative committees of the American Pharmaceutical Manufacturers' Association and American Drug Manufacturers' Association, acting as general counsel of the latter during 1943 and 1944.

Berg Joins Borden Company

William H. Berg resigned from Winthrop Chemical Co., June 30 to become associated with the Borden Co. as vice-president of the pharmaceutical department.

Winthrop Product Development

Formation of the Division of Product Development of Winthrop Chemical Co., with Aaron Addelston as associate director, has been announced by Dr. Theodore G. Klumpp, president. The new division with headquarters in Rensselaer, N. Y. will explore the post-war commercial potentialities of Winthrop products.

Mr. Addelston was released in June from the Corps of Engineers, Columbus, Ohio, where he was on special assignment in a civilian capacity. From 1936 to 1942 he was associate technical editor of "Drug Trade News" and "Drug Topics." Prior to that he was with Vinco Co., Inc., New York.

Western Crown Cork Expands

Western Crown Cork & Seal Corp. has purchased a 33-acre factory site on Bayshore Boulevard, San Francisco, for a substantial expansion of its Pacific Coast operations. After the war the company plans to erect a modern fireproof building for the manufacture of bottle caps and other metal closures for glass containers. According to Russell Gowans, president of the company, the new plant will employ about 500 persons.

Western Crown Cork & Seal Corp. is a wholly owned subsidiary of Crown Cork & Seal Co., Inc., Baltimore.

Martin Labs. Buy Ferguson Labs.

Martin Laboratories, New York, has purchased Ferguson Laboratories, Inc., in order to carry on increased experimental and research activities. This brings to four the plants which Martin Laboratories is operating—three in New York and one in New Jersey.

Stokes & Smith in Boston

Stokes & Smith Co., Philadelphia, has announced the appointment of E. M. Noel Co., 74 Brookline Ave., Boston, as its New England representative to handle its complete line of filling and packaging machinery.

For the past twenty years the Noel company has been active in the installation, servicing and sale of machinery for bakeries, chemical plants and special industries. The company's special packaging department will be under the control of L. M. Selleck. Mr. Selleck's experience coupled with the E. M. Noel Co.'s mechanical ability to service and install will mean not only immediate and continuous service to users of Stokes & Smith machines but also specialized installation and service to new owners.

Eugenie Hill Joins Georg Jensen

Eugenie Corral Hill is now associated with Georg Jensen, Inc., New York, where she will work on the development of a new line of cosmetics and perfume. For the past fourteen years, Mrs. Hill, was with Henri Bendel.

EUGENIE C. HILL

Army-Navy "E" to G. Barr & Co.

The Army-Navy "E" was presented to G. Barr & Co., Chicago, at ceremonies held in Chicago, June 26.

Colgate Advances Straka

E. H. Little, president of Colgate-Palmolive-Peet Co., has announced the election of J. A. Straka as vice-president of the company. As vice-president and assistant to the president he will work with the soap sales, toilet article sales, industrial sales and advertising departments.

J. A. STRAKA

Mr. Straka joined the company twenty years ago as cost accountant in the Milwaukee office. He was transferred to the Chicago office, became sales office clerk to retail salesmen, soap sales supervisor and in 1931 he went to Poland as general manager of the company's business in that country. After the outbreak of the war he returned to this country and became general manager of the Kirkman division. In 1943 he was transferred to the home office to become assistant to the president.

Many Manufacturers of

COLOGNES, TOILET WATERS, AFTER-SHAVE LOTIONS and TONICS are Adopting

ORBIS ALCOH-SOLS

This bottle contains 1 ounce perfume oil per gallon of 25% alcohol.
Same strength alcohol, same amount of perfume introduced through medium of ORBIS ALCOH-SOL. UNFILTERED.

UNRETOUCHED PHOTO

BECAUSE—Alcoh-sols are perfume oils that are especially compounded to render them soluble in low proof alcohol—20 to 30%.

BECAUSE — Use of low proof alcohol stretches your limited supply of this valuable strategic material.

BECAUSE — Alcoh-sols dissolve clearly and thereby save troublesome filtration. Important because time-saving.

BECAUSE — They work equally well in specially denatured or isopropyl alcohol. Excellent coverage is imparted to the latter.

A request will bring full information about these and other odors in our full line of Orbis Alcoh-sols. They are proving acceptable to others — they will to you.

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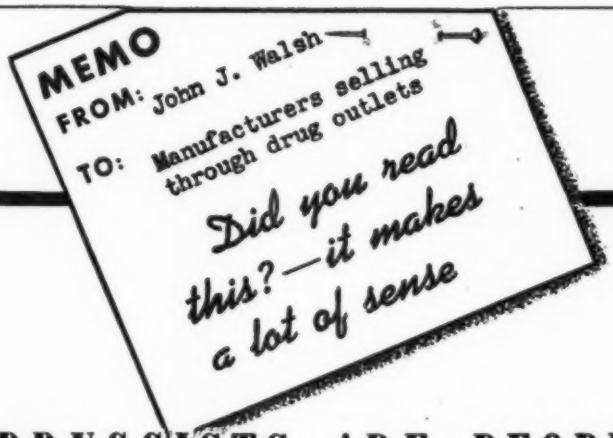

American Druggist
MAY 1944

DRUGGISTS ARE PEOPLE

Important and not impersonal cogs in the gears of any program related to drug stores are the individual druggists. Some may think that the professional character of the druggist, as a graduate pharmacist, smothers or suppresses his individuality, but even doctors have individual personalities. So do druggists.

Druggists are People. Very interesting People. We who know them know they have homes, families, and personal problems like all people. Many druggists have had to become philosophers because they frequently share the problems of their customers as well as their own. There is nothing impersonal about a druggist. That's why so many of them become known as community leaders.

No good druggist has ever lost his identity in the profession of Pharmacy nor in the business of a drug store. On the contrary, he has probably found himself in the opportunity to serve his fellow citizens as a pharmacist and as a friend. It is the desire and ability to be a useful citizen that makes the druggist more than a merchant.

Our editorial attitude is that druggists are People who choose to practice Pharmacy in a drug store in order to achieve a happy and useful community life. It is our purpose to help these people realize their ambition, and we believe they are worthy of any effort to provide them with better conventions, better speeches, better trade magazines, better advertising, and undoubtedly better editorials.

Most druggists have become allergic to what they properly call "the same old stuff." No one should be surprised if they no longer respond to stale, worn out ideas. But they are more responsive than ever to constructive helpful thinking on present and future problems and they are old enough to understand and discuss them.

Because the druggist is an individual cog (or tooth) in the gears of any drug store program, those who are making plans that pertain to druggists can no more overlook the individuality and new alertness of the druggist than can we who edit the trade magazines.

John W. McFarren
EDITOR

Van Dyk Names Sherrill on Coast

Van Dyk & Co., Inc., Belleville, N. J., has announced that George F. Sherrill is now in charge of its western office at

GEORGE F. SHERRILL

1282 Sunset Boulevard Los Angeles. Mr. Sherrill is a graduate of the University of Idaho and has been successively chemist in charge of the laboratory of the Tacoma branch of the Pennsylvania Salt Manufacturing Co., sales representative attached to the Seattle office of the L. H. Butcher Co. of San Francisco, and an engineer for the Seattle-Tacoma Shipbuilding Corp., Seattle.

Schieffelin's Quarter Century Club

Forty-seven employees of Schieffelin & Co. which is this year celebrating its 150th anniversary, met on June 16 and organized "The Quarter Century Club."

Miss Bella McCarthy, Henry S. Livingston, 1st vice-president, E. B. Livingston, general sales manager, and Sidney Cramp have completed over fifty years of service. W. J. Schieffelin, Jr., president, represents the sixth generation from father to son and is also a member of "The Quarter Century Club."

Merck Plants Get Third "E"

For the third time all three plants of Merck & Co., Inc. have won the Army-Navy "E" Award. The company's main plant is located at Rahway, N. J., the East Falls plant at Philadelphia, and the Stonewall plant at Elkton, Va. The Stonewall plant was also given the National Security Award.

Silver Service to John Powell

John Powell of John Powell & Co. was given a silver after-dinner coffee service, in recognition of his thirteen years as treasurer of National Association of Insecticide and Disinfectant Manufacturers at its annual convention in Chicago, June 12 and 13.

JOHN POWELL

Weiss Now Lewin Partner

Sidney Matthew Weiss, formerly executive vice-president and manager of A. W. Lewin Co., Inc., of New York, has been elected to partnership in the company. The New York office has been moved to 40 East 49 St., where it occupies two floors and the Newark office remains at 11 Commerce St., that city.

Clairol Appoints Merritt

Clairol, Inc., New York, has appointed W. S. Merritt as sales manager of the retail drug division. For the past

W. S. MERRITT

ten years, Mr. Merritt has been assistant to the vice-president, in charge of sales and advertising, for Seeck & Kade, Inc. Prior to that, he was associated with Towns & James, the Liggett Stores and the Nauheim stores.

Web Appoints Coast Distributor

Web Distributing Co., Newark, N. J., has announced that it has appointed Boericke & Runyan Co., 880-2 Folsom St, San Francisco, the exclusive distributor in the West Coast territory for "Pyrozide" tooth powder and mouth wash..

Jones Joins National Drug

Philip E. Jones has been appointed advertising manager of the National Drug Co., Philadelphia. He comes to his new position from Sharp & Dohme and prior to that connection was advertising manager of the medical book department of J. B. Lippincott Co.

Charter members of Schieffelin & Co.'s Quarter Century Club which was organized in New York, June 16.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

July ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1944

Non-Critical Resin Announced by U. S. I.

S&W Arochem 348 Developed for Varnish Formulations with Soft Oils

Made entirely from non-critical raw materials, U. S. I.'s new synthetic resin, S&W Arochem 348, combines high melting point (obtained without the use of metals, phenol-formaldehyde, or dibasic acids) with the ability to aid in the bodying of "soft" oils. This combination facilitates the production of varnishes superior to ester gum varnishes, and appoaching the quality of modified phenolic or modified maleic varnishes.

Higher Viscosities Obtainable

Varnishes compounded with S&W Arochem 348, for example, are faster drying and have greater film hardness than comparable ester gum varnishes. They are freer from after-brittling and possess better elasticity, durability, and color retention. Varnishes of much higher viscosity can be obtained with Arochem 348 than with ester gum, when processed with dehydrated castor or similar oils. On the other hand, equivalent viscosities can be obtained with much less cooking. This means important savings in time, and varnishes of paler color.

Arochem 348 requires no special precautions or methods of handling; it is completely soluble even in very high-viscosity drying oils. Its specifications are as follows:

Resin Specifications

Acid Value	15-25
Melting Point (Mercury Method)	115–130°C
Color (G.H. 1933—50% Solution in Toluol)	10–12
Viscosity (G.H.—60% Solution in Toluol)	Approx. C
Specific Gravity	1.1

Holds Even Temperatures Using Ether as Coolant

An ingenious new heat exchange device cools liquids to pre-selected temperatures, and then holds them within narrow limits, according to a recent patent.

Taking advantage of the high volatility of ethyl ether, the new device provides for pre-selection of the temperature by adjustment of the pressure in the coolant chamber. Pressure is set to maintain the boiling point of the ether at the desired level. As the temperature rises above this level, evaporation of the ether accelerates so that a constant ratio is held between cooling needs and cooling effect.

Suggests Way to Better Blood Plasma Quality

The possibility that the normal chemical balance of human blood can be more closely maintained, and the value of the resultant plasma still further improved, is suggested by two bacteriologists. They propose collecting and storing blood in an atmosphere of carbon dioxide and thus preventing the loss of CO_2 which occurs when blood is shed in air.

It is this loss of CO_2 which normally results in a gradual increase in the potassium ion concentration in the plasma, and other changes which adversely affect the plasma.

TRAVELING CLOTHES FOR A P-40

"Wrapping up" planes or plasma, war's unusual packaging jobs call for—and get—unusual adhesives.

Production Short Cuts Seen With War-Born Adhesives

U. S. I. Solvents, Plasticizers and Resins Expected to Play Increasingly Important Roles as Essential Ingredients

Dating back comparatively few years to the introduction of cellophane, resin adhesives are the newcomers in a long line of chemicals employed in the vitally important job of "making things stick". As newcomers, they are currently the most interesting. Certainly they hold the greatest promise of future growth.

Types of Glue

Starch-base glues, because of their low cost and suitability for paper and other water-permeable materials, represent by far the largest volume of adhesive sales; doubtlessly they will continue as leaders in many packaging and paper-converting applications. Casein and latex glues have numerous accepted and important uses. Animal glues, while less significant volume-wise, continue to fill certain specific needs. However, it is in the resin adhesives, with their fast-setting properties and adaptability to a wide variety of materials, that the really fascinating postwar possibilities lie.

Bundles for Beachheads

"Amphibious" packaging of military supplies is strictly a war problem. But in the development of adhesives to provide water-proof seals, to adhere to the new water-proof papers, to withstand rough handling, to serve in tropic heat or arctic cold, advances of great peacetime promise have been made. The same is true in the development of plywood glues, which have revolutionized our ideas of wood as a structural material; of metal bonding agents rivalling welding in strength; of adhesives combining high holding power with high dielectric strength, resistance to insects, mold and fungi, or any one of many other special characteristics.

Speed and More Speed

Equalling the remarkable new functional abilities of these war-born adhesives in promise, are their almost incredible savings in application and curing time. Plywood can now be cured in minutes instead of hours; many packaging operations can be speeded up; labelling machines can be designed to operate faster. And in such industries as bookbinding, furniture making, and shoe manufacture, where production set-ups have been

(*Continued on next page*)

L. W. Bass Takes Post on U.S.I.-Airco Research Staff

Dr. Lawrence W. Bass has been appointed Associate Director of Chemical Research, to serve in this capacity jointly for U. S. Industrial Chemicals, Inc., and Air Reduction Company, Inc. He will be responsible for the development of plans for coordination and expansion of research of the two companies, as well as for the coordination of the work of the Research Department of each company with the work of the various operating departments.

L. W. Bass

Dr. Bass has been serving as Director of the New England Industrial Research Foundation in Boston. Previously, he was associated with the Rockefeller Institute, the Borden Company as Director of Research, and Mellon Institute as Assistant Director. He is Vice-President of the American Institute of Chemical Engineers and Non-resident Vice President of the Chemists' Club in New York.

Two Novel Engine Cleaners

Two patents have recently been issued, one in the United States and the other in Germany, on solvents to remove carbon deposits from internal combustion engines. The first covers a mixture of dibutyl phthalate and cresol. The second uses a mixture of wax, trichloroethylene, camphor, acetone, turpentine oil and amyl acetate.

ADVERTISEMENT—*This entire page is a paid advertisement.*

July ★ **U.S.I. CHEMICAL NEWS** ★ 1944

Resin Structure Studied With the Aid of Acetone

In spite of the wide industrial use of phenol-formaldehyde resins, comparatively little definite information exists as to the chemical and physical nature of these resins. One reason for this lack of knowledge lies in the difficulty of studying thermo-setting resins; X-ray diffraction patterns and other conventional methods of investigation are inoperative with the cured resins.

Recently, two Massachusetts scientists have utilized the swelling action of acetone on cured phenolic films to produce patterns which can be examined under polarized light. By determining the time required for development of these patterns, they have been able to study the kinetics of the curing process and draw some interesting conclusions as to the structure of the ultimate resin.

Patents New Ointment for Skin Infections

According to a recently-awarded patent, solutions of iodo-acetone or iodo-acetophenone, dissolved in acetone and mixed with petrolatum, provide an ointment which is efficacious in the treatment of fungus and staphylococus infections of the skin and scalp.

Reduces Surface Tension of Diesel and Other Fuels

A recently granted patent covers liquid-fuel compositions in which a dialkyl carbonate is incorporated to reduce the surface tension, thereby improving atomization and preventing clogging of spray nozzles. The addition is also claimed to improve the anti-knock value and lubricating ability of the fuel. Carbonates mentioned include dibutyl and diethyl. Alcohols or ketones may be used to improve the blending.

Ergosterol Extracted from Penicillin Mold

In studying *Penicillium notatum*, the mold grown for the production of penicillin, three scientists have discovered a possible new source of ergosterol, the material which yields vitamin D_2 upon irradiation. As reported in a recent issue of *Science*, they found that the non-saponifiable matter from a butanol extract of the wet mycelium produced a sterol which could be readily purified and which possessed the distinctive properties of ergosterol.

War-Born Adhesives

(Continued from preceding page)

built around unavoidable delays to allow for glue setting, the possibilities for production short cuts are sizeable.

U. S. I. Products Used

U. S. I. solvents, plasticizers, and resins are widely used in connection with the new resin adhesives, as can readily be seen by considering some of them individually:

1. Phenol-formaldehyde glues used in making plywood, for example, are often applied in alcoholic solvents. Phenolic baking cements used in resistors, transformers, basing light bulbs, radio tubes, etc., because of their insulating properties, are also applied in alcohol solvents.

2. Cellulose adheaives are made from ethyl cellulose, cellulose nitrate, or cellulose acetate used with a resin, a plasticizer and a solvent. The plasticizer is usually either diethyl or dibutyl phthalate for nitrocellulose and ethyl cellulose, or diethyl and dimethyl phthalates for cellulose acetate. The solvent may be ethyl or butyl acetate, alcohol, or acetone diluted with benzene or toluene. These adhesives find use for such varying purposes as making laminated safety glass, sealing food packages, and stiffening collars and cuffs.

3. Polyvinyl cements also include dibutyl phthalate as plasticizer, and utilize ketone solvents such as acetone. These cements are very versatile, having the ability to join glass, wood, metal, plastics, cloth, mica, stone, and other dissimilar materials.

4. Acrylic resin cements have good electrical properties. They are soluble in ethyl and butyl acetate, and employ dibutyl phthalate as a plasticizer.

5. Chlorinated rubber adhesives are soluble in hydrocarbon solvents with esters and ketones in combination. These adhesives will join metal to rubber and are useful in connection with wood, leather, cork, and linoleum. They are also employed in rendering textiles, paper, cellulose derivative sheets, etc., impermeable.

6. In many types of adhesive tape, including some now used for camouflage purposes, special non-oxidizing ester gum is used for imparting tack.

7. Again, ester gum is used in waterproof bread-wrapping paper which is now sealable by the mere application of heat.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A new plasticizer for cellulose acetate is being offered as an alternate for some plasticizers now subject to priority restrictions. The product is reported to yield tough, rubbery solids which can be calendered into sheets, or used as adhesives. **(No. 827)**

U S I

Rot-resistant rope, twisted from extruded synthetic filaments, is reported to be standing up successfully in the presence of acid and alkali fumes, where vegetable-fibre ropes deteriorate rapidly. Sold now in sizes up to ⅝ inch, in regular coil and spool lengths. **(No. 828)**

U S I

A new corrosion-proofing liquid, is applied by dip, brush or spray to form a water-repellent coating which the maker states will not melt, run, or become brittle. Said to be inert to metal and harmless to normal skin, the new product serves as a lubricant in metal-working, is removable by petroleum solvent. **(No. 829)**

U S I

Plastic-synthetic rubber mixtures, which can be extruded, molded, calendered, or spread, are now offered for use in making shoe soles, hose covers, tank linings and other items. Said to combine the desirable characteristics of both the plastic and rubber, the blends are available in vulcanizable and non-vulcanizable types. **(No. 830)**

U S I

A new adhesive for applying labels to fibre, wood, paper, metal, and paraffine surfaces comes as a liquid which is applied cold by brush. Product is said to stick quickly and be water-insoluble when dry. **(No. 831)**

U S I

Higher insecticidal power, for household and livestock sprays, is said to be obtainable with a new toxic agent now being offered to insecticide manufacturers. Unusual stability, high knock-down and kill, and long-lasting repellency are economy factors attributed to the new product. **(No. 832)**

U S I

A new soap ingredient, said to soften even cold sea water, is now being used in soaps for the Army. Interesting prospects are seen for this sulfonated product which unites with hard-water minerals to form a finely-dispersed, non-settling precipitate. **(No. 833)**

U S I

A new synthetic rubber, promising to be especially suitable for use in heavy-duty truck tires, is announced. The new rubber is said to be strong, tough, and resistant to cuts and abrasion. It is also said to have greater resistance to heat, moisture, and oil than other synthetic rubbers. **(No. 834)**

U S I

A new sealing material is said to resist heat hardening and attack by vapors or fumes, and to have a variety of uses in closing cracks and seams against moisture and water absorption. **(No. 835)**

U S I

A new synthetic beeswax is suggested for use as a replacement for natural beeswax, or for blending. It is reported to give a stable emulsion particularly useful in ointments, cosmetics, and soaps. **(No. 836)**

U.S.I INDUSTRIAL CHEMICALS, INC.

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®Solox Proprietary Solvent
®ANSOLS
Ansol M
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Amyl Acetate
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Ethyl Acetate
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Sims Quits OPA

William L. Sims, II, of Orlando, Fla., resigned as price executive of the Chemicals and Drugs Branch of the Office of Price Administration, June 20.

In announcing the resignation, James F. Brownlee, deputy administrator for price, said that Mr. Sims, a retired executive of Colgate-Palmolive-Peet, had accepted the post for a limited period only. Lester Chandler, price executive of the Rubber Branch, has assumed the added responsibilities of acting price executive of the Chemicals and Drugs Branch.

Veegum Pamphlet

R. T. Vanderbilt Co., New York, has issued a pamphlet giving information about "Veegum" its magnesium aluminum silicate gel for use in cosmetics. Included in the data on the product are a number of cosmetic formulas. Copies of the booklet are available upon request.

National Merchandisers Formed

Sid Picker & Associates has announced the organization of National Merchandisers, a national marketing and sales organization, offering field coverage to manufacturers interested in placing branded lines in toilet goods, drug and notions departments of wholesale and retail druggists, department stores, chain and independent limited price variety stores.

National Merchandisers is located at 565 Fifth Ave., New York 17.

Tennant Memorial Lecture

The Society of Chemical Industry, London, has established a series of endowed memorial lectures. The original Charles Tennant work in the field of chemistry was made the subject of the first lecture which was delivered before the Glasgow Section of the Society, October 1, 1943, by Brig.-Gen. Sir William Alexander.

The lecture has been reprinted by American-British Chemical Supplies, Inc., one of the Tenant group of companies in this country.

G. J. Danco Expands

Gerard J. Danco, Inc. is now located in new quarters at 3 East 44th St., New York. The company occupies the entire

GERARD J. DANCO

fourth floor of the building and now has more than twice its former space. Attractive private offices and laboratory enhance the enlarged quarters.

Guests of Honor at a dinner given by Percy C. Magnus, general chairman of the Disabled American Veterans National Service Fund. Lieut. Ernest Childers, of Broken Arrow, Okla. one of the first heroes of World War II to win the Congressional Medal of Honor; the Hon. Walter Nash, Minister from New Zealand; Brig. Gen. Frank T. Hines, administrator of veterans affairs; Tech. Sergt. Charles E. Kelly of Pittsburgh, first and only enlisted man to win both the Congressional Medal of Honor and the Silver Star; Mr. Magnus; and Lieut. Courtney S. Kitchel, of Northport, L. I., winner of the Silver Star, Purple Heart and Air Medal with Silver Cluster.

Grove Priorities Director

Herman A. Kramer has joined Grove Laboratories, Inc., as priorities director. He will also be in charge of expediting all printing and advertising for the com-

HERMAN A. KRAMER

pany. Mr. Kramer formerly served as an investigator in the St. Louis district office, Investigation Unit, Compliance Section of the War Production Board.

Waterman Named Schering Director

Robert E. Waterman has been elected a vice-president and director of the Schering Corp., Bloomfield, N. J. A graduate of Massachusetts Institute of Technology, he was for many years associated with Dr. R. R. Williams of Columbia University with whom he worked on the isolation and synthesis of vitamin B_1. In 1940 Mr. Waterman became associated with the Research Corp., New York, to whom the Williams B_1 patents were assigned. Since early 1942 he has been a part-time consultant for the Alien Property Custodian and has been the custodian's special representative in the production of quinachrine, the synthetic antimalarial commonly known as atabrine.

In his new post at Schering, Mr. Waterman will be associated with both the chemical and medical research divisions.

Florasynth Chicago Dinner

Florasynth Laboratories, Inc., gave a buffet supper at the Drake Hotel, Chicago, June 19, the occasion being the opening of the company's new Chicago plant at 600 West Monroe St. The affair was arranged by Dr. William Lakritz, vice-president of Florasynth Laboratories, in charge of midwestern activities. During the evening, Dr. Alexander Katz, president of the company, showed motion pictures of vanilla bean cultivation in Mexico and of the production of flavoring materials at the Florasynth New York plant.

Kolmar contributes

to the war effort by packaging an important item that is used by flyers when forced down at sea. Kolmar also helps maintain home front morale by continuing to produce the merchandise for which it has been famous these many years. Yes . . . Kolmar is proud to do double duty these days.

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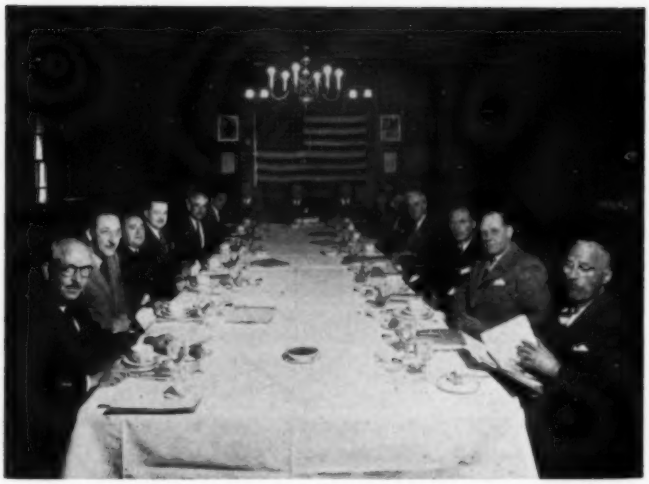
Mr. Warren Curry,
2504 Alton Road, N. W., Atlanta, Ga.

Mr. Norman Kole,
960 Merchandise Mart, Chicago, Ill.

Mr. R. F. G. Byington,
1260 N. Western Ave., Los Angeles, Cal.

Mr. Richard F. Spicker,
419 West Fifth St., Cincinnati, Ohio



Members of the Manhattan Cosmetics and Perfume Section of the Fifth War Loan Drive. John Hudson Moore is chairman of the section.

Katz Completes Trip

Leonard A. Katz, in charge of Pacific Coast headquarters of Florasynth Laboratories, Inc., in Los Angeles, has completed a business trip by air throughout the Pacific Coast territory.

Dr. Guenther on Latin-America

Returning from a three months' trip to Central and South America, Dr. Ernest Guenther, vice-president and chief research chemist of Fritzsche Brothers, Inc., expressed amazement over the industrial transformation that has taken place since his last visits several years ago. A great real estate and building boom is in progress. In the forefront of many new finished goods industries are the manufacturers of cosmetics, perfumes, soaps, drugs and pharmaceuticals, shoes, textiles, ladies' bags, etc. Almost anything in the way of consumer goods, including those things which are very scarce in this country is available but at high prices.

The production of mint oil and menthol in the State of Sao Paulo, Brazil, is expected to reach a considerable tonnage during the next harvest. Other Brazilian developments are the production of eucalyptus citriodora and eucalptus globulus. Colombia is also beginning to produce small quantities of eucalyptus globulus. Honduras is producing lemongrass and citronella; Guatemala is producing lemongrass and citronella and is commencing the cultivation of mentha arvensis and certain condiment plants, such as coriander. In Mexico experiments are under way for the production of mentha arvensis, lemongrass, citronella and various spice plants such as ginger.

Fox—National Drug Sales Mgr.

David A. Fox, western division manager of the National Drug Co., Philadelphia, has been promoted to the position of sales manager of the company. Mr. Fox has been with National for the past seventeen years, first as representative, then as division manager.

New Partnership

Pando & Co. has been formed at 163 West 72nd St., New York, as the sole agents in the United States of the Myrurgia line of toiletries. The principals are Elias Pando, Francisco Diaz, and Francisco P. Puig. Candido F. Rodriguez is general manager, Alfred E. Boaz is sales manager, and Fernando Coopat is the technical advisor.

Herman Meyer Drug Changes Name

The name of the Herman Meyer Drug Co., Inc., has been changed to Hema Drug Co., Inc. The company, maker of hormones, fine chemicals and pharmaceuticals is located at 66-38 Clinton Ave., Maspeth, N. Y., and is under the sole management of Arthur Berg.

Will Heads Moffett Drug Co.

A. Royce Will has been elected vice-president of Moffett Drug Co., Inc., New York, manufacturer of private

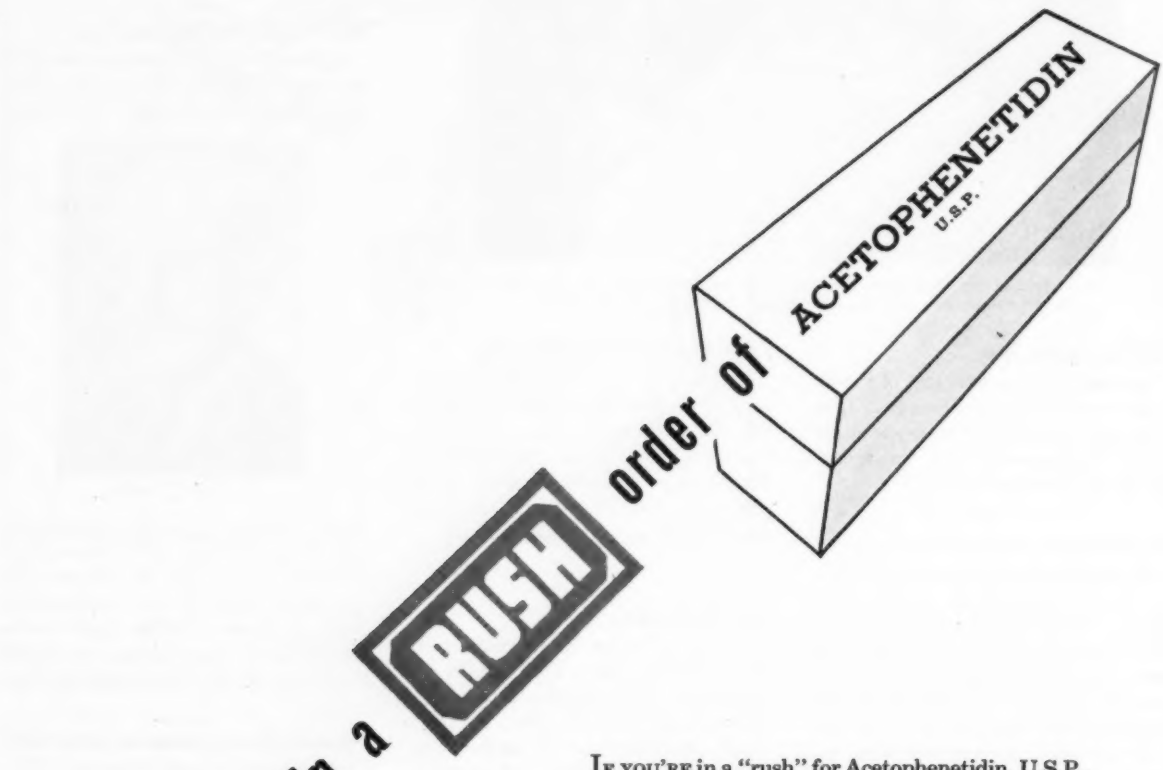
A. ROYCE WILL

label vitamins, drugs and cosmetics for the drug and department store trade. For the past six years Mr. Will has been associated with Emdee Laboratories, formerly known as Miller Laboratories. He will be in charge of sales for Moffett Drug Co. in the Pittsburgh-Cleveland area.

Green—Glyco Products Comptroller

Maurice S. Green, formerly of the National City Bank of New York, has been appointed comptroller of Glyco Products Co., Inc., Brooklyn.

Kerr Eby, Vice Admiral Ross T. McIntire, Surgeon General, U.S.N. and S. DeWitt Clough, president of Abbott Laboratories, at the reception held in connection with the presentation of the Abbott collection to the Navy.



IF YOU'RE in a "rush" for Acetophenetidin, U.S.P., to be used as a pharmaceutical or as a veterinary preparation, you can get *immediate shipment* from Monsanto. And you can get it in any quantity you require.

Monsanto Acetophenetidin, U.S.P., is the product of exacting research. It is manufactured under strict plant and laboratory control. Therefore, you always can *depend upon the quality* of Monsanto Acetophenetidin, U.S.P.

We shall be pleased to supply specifications, prices and samples upon request from pharmaceutical manufacturers. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second St., St. Louis 4, Missouri.
District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Montreal, Toronto.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

American Home Buys Prescott Paint

American Home Products Corp. has acquired the Prescott Paint Co. it has been announced by Walter F. Silbersack, executive vice-president and general manager of the corporation.

The management, policies and personnel of the company will remain unchanged. Dr. Carl Iddings, its president, is a member of the technical advisory committee, Protective Coating Section of the War Production Board, and chairman of the steering committee, Calcimine and Water Paint Division, National Paint, Varnish and Lacquer Association.

Grove Labs. Appoints Wegmann

Grove Laboratories, St. Louis, has announced the appointment of Mansfield J. Wegmann as counselor for the company. Mr. Wegmann, a member of the State and Federal Bars in Missouri, was formerly associated with several large St. Louis financial institutions. He has recently completed a 21-months' tour of duty with the Army Air Corps, Troop Carrier Command.

Pharmaceutical Adv. Club Elects

At a meeting of the Pharmaceutical Advertising Club, June 23, the following new officers were elected: president, Paul de Haen, Riedel-de Haen, Inc.; vice-president, H. R. Moorman, Sarnay Products Inc.; treasurer, Herbert Hartfiel, M.D., Wm. R. Warner & Co.; and secretary, Robert J. Ingram, Bristol-Myers Co.

Lieut. Robert A. Neumer

Word was received June 21 that Lieutenant Robert Alan Neumer, son of Arthur E. Neumer, of Bridges, Neumer & Co., New York, was killed in action in England, June 7.

Lieut. Neumer, navigator of a B-26 Liberator bomber, was twenty-one years old. He is survived by his mother and father, a sister, Mrs. Elwyn L. Bloodgood, and a brother, Ensign Arthur E. Neumer, Jr., a Navy flier.

Jimmy Walker Aids Jewish Appeal

James J. Walker, former mayor of New York City, was the principal speaker at the annual dinner the drug and cosmetic manufacturers, buyers and retailers of the Greater New York area gave for the United Jewish Appeal, June 15, at the Hotel Pennsylvania, New York.

Herman L. Brooks, president of Coty, Inc., is chairman of the industry's drive. Other officers are: co-chairmen, David L. Kaltman, Hugo Mock, B. H. Badanes, Horace L. Nathan, Stanley R. Swabeck; treasurer, Louis I. Furlager; secretary, Benson Storfer; chairman, manufacturers, Harry Cooper; chairman, essential oils, Louis Gampert; chairman, retailers, Herbert I. Bluestone; chairman, buyers, William F. Murtha; chairman, wholesalers, Irving Feldman; chairman, druggists sundries, Joseph Spielman, and chairman, publicity, Jack Colm.

The executive committee includes: Maurice Alkon, Lester E. Amster, David P. Bach, Joseph Bander, Leo Bertisch, Julius Blackman, Leonard Block, Jack Burkan, Dr. Harry E. Dubin, Leon Eisen, Bernard Feldman, J. J. Franz, Ralph H. Goldman, William Jacobs, Louis E. Kalty, Emanuel Katz, Meyer K. Katz, Max Katzman, Arthur J. Kinsman, Edward Neimeth, Harry Pitkow, Jack I. Poses, Ben B. Raucher, Louis Rodnon and Louis Weigert.

George E. Egger, vice-president in charge of sales for Clapp's Baby Foods, honored by his co-workers as he leaves to join Reynolds Metal Corp. From left to right are: Fred Berner, Lew G. Durron, Mr. Egger, Johnny Walker, R. L. Benjamin, Walter F. Silbersack, executive vice-president, American Home Products; Howard Cook, Henry W. Roden, president, Clapp, Inc.; E. D. Baxter, Paul Duncan, and Paul J. Campbell.

Canada Toilet Goods Meeting

The Toilet Goods Manufacturing Association of Canada held its sixteenth annual convention June 12 and 13 at the Chateau Frontenac, Quebec. The attendance this year was the largest ever with 245 people present. R. F. Merkley of the Canadian branch of Northam Warren is the newly elected president of the association.

Among those from the United States who attended were: Mr. and Mrs. P. E. Fenton and Mr. and Mrs. Cook, Scoville Mfg. Co.; Mrs. Ronden and Miss MacRae, Belcano; Mr. and Mrs. Al Mullens, Allied Products; Harry Pfaltz; Mr. and Mrs. Norman Dahl, Prince Matchabelli, Inc.; Mr. and Mrs. H. V. Lehman, and Mr. and Mrs. R. E. Schwartz, Wildroot Co. Inc.; A. F. Anderson, Naugatuck Aromatics; D. A. Bennett and E. J. Strobl, Albert Verley & Co.; Dr. Victor G. Fourman, Syntomatic Corp.; Maison de Navarre; Dr. and Mrs. S. G. Hanson, House of Hollywood; Mr. and Mrs. Warren Van Kirk and Mr. and Mrs. Earl Freese, Harper Method, Inc., Northam Warren; A. S. Bedell, Beauty Counselors, Inc.; and E. C. Barton, Compagnie Parento, Inc.

Winthrop's 25th Anniversary

Winthrop Chemical Co., Inc., which is now sending to the armed forces 65 per cent of its production of drugs such as atabrine and penicillin, informally marked its twenty-fifth anniversary at a dinner at the DeWitt Clinton Hotel, Albany, June 27. More than 125 were present including officials from New York headquarters and from the Rensselaer research laboratories and manufacturing plant, as well as divisional managers from twelve major cities of the United States and Canada.

Dr. Frank J. Stockman, vice-president spoke on "The Growth of Winthrop Chemical Co." Other speakers were Dr. A. E. Sherndal, vice-president; Dr. Harold L. Hansen, plant superintendent and John M. Grece, manager of the sales promotion department.

Pyrogen-Free Water... At LOWEST Cost

- **FOR USE IN INTRAVENOUS SOLUTIONS**
- **FOR RESTORING DESICCATED PLASMA**

Stokes Multiple-Effect Water Stills are recommended for use where pure distilled water is required in quantities of 100 gallons per hour and up. Not only is the operating cost of a Stokes Multiple-Effect unit much lower than that of a single-effect still of equal capacity, *but the water it produces is of far greater purity.*

These stills are engineered to meet specific water requirements . . . are widely used by manufacturers of biologicals and pharmaceuticals, to produce pyrogen-free distillate for use in saline, glucose and other intravenous solutions, restoring desiccated blood plasma and for other purposes.

For more than 25 years we have engineered and built Multiple-Effect Stills . . . pioneered the development of this type of equipment.

Write for catalog, Multiple-Effect and Single-Effect Stokes Stills, with typical water analysis, operating cost figures, and other data. Also available is a complete line of standard laboratory stills. Send for folder.

F. J. STOKES MACHINE COMPANY

5932 Tabor Road **Olney P. O.** **Philadelphia 20, Pa.**

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Pacific Coast Representative • L. H. Butcher Company, Inc.

F.J.Stokes **PROCESSING EQUIPMENT** FJS Est. 1895

Production Forum

By Francis Chilson
Industrial Consultant

Plant Inspection

On innumerable occasions I have reiterated the belief that no plant can be efficient and dirty also. I have expressed the belief that good morale and filthy surroundings are incompatible and impossible. The army and the navy have known this for generations; hence, uniforms; hence repeated inspections.

If you want efficient operation; if you want high morale; you must provide clean surroundings and you can't get either by depending upon porter service. *Keeping clean* is a job for every worker. Keeping clean is very different from cleaning up. One depends upon training and discipline; the other upon porter service or a more or less repetitive clean-up period.

Again I say porter service should be limited to the maintenance of offices, laboratories, toilets, corridors and stairways—window washing, etc. Operating departments should be taught to keep clean and to clean up as they work. It's not an easy job. First of all you've got to learn to see dirt yourself. If you can't see dirt; if dirt isn't offensive to you, then don't bother to read the rest of this—it won't do any good.

It's a hard job to teach yourself and your workers to see and abhor dirt. It's a job requiring keen-eyed vigilance which can never be relaxed for a moment. When you let down; everybody else does. In setting up a sanitary program, it is first of all desirable to clean up thoroughly and paint everything spick and span. Then eliminate the departmental porter service altogether. Then teach your workers to keep clean as they go; teach them when they spill anything to wipe it up instantly; teach them that plant dirt is made by them—very little is blown in the windows; teach them that dirt and disorder are offensive in the sight of God and man. Keep everlastingly at it. Then appoint a plant inspector to check up relentlessly and endlessly.

I have found that you can't keep everything up to snuff unless you have a fulltime plant inspector, whose sole job is to hunt dirt and report it. Usually I have recommended the appointment of an old-timer who is too old to handle responsibilities and still too young to pension. The routine recommended is this; the plant inspector goes over every square foot of the plant at least once a week—oftener if possible. He makes a report in detail of all disorderly, dirty and unsafe conditions. He keeps the report and sends a copy to the person responsible for the particular area. On his next trip around conditions are checked against the previous week's report. On the second trip all conditions which have not been corrected are summarized in a report which goes to the plant superintendent. On the third trip all conditions which have been neglected for three consecutive weeks are summarized in a special report for the president. This is important. The boys down the line must know that Mr. Big is solidly behind the program.

To show how well the system works let me cite the inspection report of the Chattanooga Medicine Co. which lies before me. I started the inspection system there two years ago—the inspector made his first trip June 24th 1942. That first report which I have just reread contains 456 entries. The most recent report, June 27, 1944 contains 42 entries. To show you how detailed such a report should be let me quote part of that first report:

Medicine Packaging Department:

Floor behind radiators dirty.
Only one hook fastened on screens 4th and 5th windows north.
Old paper behind radiator S.E. corner.
Windows need washing.
Screws and machine parts on cabinet N.E. corner.
Cracked pane in E. window patched with paper.
One shade torn.
Steam pipe riser needs painting to match wall.
Window sills need painting.
Water fountain dripping.
Lighting fixture needs repair, E. end.

Now let me quote from the most recent report covering the same department:

Floor dusty behind the first radiator, N.W. corner.

That was all. Just one item in the department that could be criticized. That department incidentally contains one semi-automatic powder packaging line, one automatic powder packaging line, one ointment line, one semi-automatic liquid packaging line, one automatic liquid packaging line. Part of the department

Announcing New ROSS-CHILSON Dryer

COMBINES

both continuous and batch dryers in a single streamlined unit!

Distinctive Features

In tunnel drying, material passes through 4 separate zones, allowing the use of the proper drying cycle. Automatically operated overhead doors separate each zone except during the moving of the trucks.

In tunnel drying, air travels in alternate directions for uniform drying on all trays.

When used in batch drying, four different materials can be dried without contamination.

All parts of dryer easily accessible for thorough cleaning.

The tremendous operating advantages of this remarkable combination dryer will be instantly apparent to production executives throughout the industry. Automatically controlled doors at opposite ends permit its use as a tunnel dryer for continuous large quantity production. Side doors to four distinct and separate compartments permit its use as a batch dryer. Separate controls maintain any desired condition of humidity and temperature in each of the compartments. With this new ROSS-CHILSON Dryer, large production or small batches can be properly handled in the same dryer. Consider the possibilities for your product and process.

ROSS SYSTEMS

J. O. ROSS ENGINEERING CORP.

350 MADISON AVE., New York 17, N. Y.

CHICAGO 6—201 North Wells Street **DETROIT 3—12953 Greeley Avenue**

CONTROL OF AIR FOR MODERN INDUSTRY

ROSS ENGINEERING OF CANADA, LTD., Dominion Square Building, Montreal

has been working on a twenty-four hour shift during a substantial part of the war period.

The Chattanooga Medicine Company has done more than its share of war work. Counting K rations, the sales volume of the company has multiplied about ten times; its personnel has increased from a couple of hundred to a couple of thousand. At the same time, in spite of the war, hell and high water, the plant is being modernized. The boys down there could have used all the old familiar alibis for not keeping clean. They could have cited labor turn-over, green help, temporary set-ups, changing contracts, irresponsible labor, etc. But they didn't. They believed the job could be done, the way I wanted it done and they are doing it.

I hate like thunder to admit all this in writing because the next time I raise the devil with those damn rebels for not being up to standard—my standard—they'll wave this article under my nose and insist they're hot stuff.

Tablet Specks

Seems to be a peck of trouble through the trade, keeping specks out of tablets. The difficulty has occurred even in departments equipped with dust control devices and air conditioning equipment besides. Trouble seems to lie in dirty raw materials. Some raw materials which formerly were packaged in slack barrels with liners or in fibre drums are now being shipped in paper bags. A paper sack is a dirty contraption; its folds and seams can pick up a speck of soot and dirt—mostly railroad dirt. You shouldn't buy materials in paper sacks if you can avoid it. When you can't you should carefully remove the outer bag if it is a double walled bag. If it isn't you should clean the seams and the "ears" of the bag before it is opened. Control procedure, commonly limited to manufacturing, should be extended to formula weighing and methods of opening and cleaning original containers should carefully be worked out. Your weighing room should be immaculately clean with all necessary provision for dust control. The containers in which materials are delivered to manufacturing departments should be carefully sealed.

Palmer Promises

Frank D. Palmer Inc. 528 N. Western Ave., Chicago, announces that he has developed for post-war use the following:

New sift proof and moisture proof packages.
New high speed method of forming and filling lined and unlined cartons.
New high speeds on forming slip cover boxes.
New heat sealed liners in locked cartons.
New high speed, high accuracy volumetric fillers.
High speed carton lining and forming equipment.
High speed bag making and filling equipment.
New bottle filling equipment.
Special equipment for pharmaceuticals sealing and filling.
Special conveyors and handling equipment.

Quite an order. Seems like F.D. has bitten off quite a hunk. But some of the boys from the windy city really deliver the goods. We'll wait and see.

Shock Washing

Cleaning glassware, especially ampoules, is quite a chore, especially so since it has always been a guess-and-b' God operation. I have seen washing operations where the glass was washed with detergents, solvents, pyrogen-free water, distilled water, then steam made from distilled water. Then the glass was exposed to the air long enough to become contaminated anyway before being autoclaved. People are coming around to the belief that waltz-me-around-again-Willie operations rarely get anywhere and have adopted a method of cleaning ampoules which consists simply of washing the glass with cold water; then blasting it with steam. This makes sense as the expansion and contraction of the glass will break any chemical film that may have formed on the glass and presumably microscopic cells are disrupted in the procedure. It's tough on the glass.

Bottling Engineer

Had lunch a week or so ago with my old friend Ivan Risser of U. S. Bottlers Machinery Co. Ivan's a regular guy, who either likes you or he doesn't—emphatically—and if he likes you, his liking is not predicated on the amount of business you give him. Ivan has a lot of post-war developments bouncing around in that square head of his. The Sanitaire bottle cleaning machine was developed too close to the outbreak of the war to get the attention it deserves. It's really a swell, inverting type bottle cleaner and you'll be hearing more about it soon. In the meantime get a copy of the Bottling Engineer's Handbook. It's a very handy book and contains a lot of fine tables that are difficult to lay hands on. You'll find virtually every type of bottle handling equipment in the book, in every size.

Drying Trays

Don't let anybody fool you about the virtue of solid bottom drying trays as against screen trays or expanded metal trays. There's just no comparison. In a recent installation I allowed myself to be weaned away from the use of expanded metal trays which I have always favored because they are rigid and will not sag in the middle and they have even more open area than conventional wire mesh trays. However, I allowed myself to be swayed by a technical assistant who was supposed to be an expert in drying and I specified solid trays for the first time. My former assistant contended they would provide more uniform heat distribution. Theoretically that may be true. Practically it is not. Material in a solid bottom tray will get crusty and case hardened on top and remain soggy on the bottom. This condition is caused by the fact that moisture liberated by heat is not instantly carried off by the air stream. In the open work tray on the other hand liberated moisture can pass in both directions into the air streams above and below the tray. The paper liner on which the

PORTRAIT OF A HERO
...handle with care!

Many a wounded hero will come home well and strong again, thanks to a thin sheet of film...

Thanks to the miracle of the X-Ray . . .

And thanks to air conditioning and refrigeration which help make the miracle possible! *Air conditioning* supplies clean, filtered air—with accurate regulation of both temperature and humidity—in plants where X-Ray film is made, in army hospitals where it is used. *Refrigeration* cools the solutions used in processing the film.

Out of such wartime applications, General Electric is evolving new techniques, finer equipment for conditioning temperature and humidity. When equipment again is available for peacetime commercial and industrial uses, it will be vastly improved—more compact, more efficient, more flexible than ever before!

Now . . . we'll be glad to put your name down for *earliest available* data on postwar air conditioning and refrigeration equipment. Write: *General Electric Co., Air Conditioning and Commercial Refrigeration Divisions, Section 426, Bloomfield, N. J.*

☆ BUY WAR BONDS ☆

Air Conditioning by

GENERAL ELECTRIC

Hear the General Electric Radio Programs: The "G-E ALL-GIRL ORCHESTRA," Sundays 10 P. M., EWT, NBC..."THE WORLD TODAY" News, Every Weekday, 6:45 P. M., EWT, CBS

material rests exerts a wicking action which facilitates the transfer of moisture vapor into the lower air stream. The time difference in drying the same materials on the two types of trays amounts to as much as twenty per cent in favor of the expanded metal tray.

Progress Report

To the many of you who have written me expressing interest in the tablet counting device upon which I have been working for so many years, I wish to say that up to this date progress has been lousy. There are two reasons for this. One is Uncle Sam who continually snatches the engineers off the job and puts them at higher priority work. The second is the fault of the machine which again has developed the cantankerous habit of picking up on occasion two tablets instead of one. A few months ago we thought we had that licked. We had licked an earlier propensity to miss an occasional tablet and in a burst of optimism we had started to detail the machine. Then we got hold of some odd shaped tablets and for some reason that damned cantankerous contraption started picking up two and occasionally three tablets. So we are almost back where we started. I have determined that unless the machine conforms to its original purpose, it will never appear on the market. The job could be simplified by putting out several types of machine because on certain forms of tablet no difficulty is ever experienced either as to count or failure. But I am pig-headed enough to stick to my original purpose:—to produce a machine which without change parts will accurately count any shaped tablet, pill or capsule into any desired style of container. Also I am pig-headed enough to believe that for every condition there is a cause—that if the machine accurately picks up a hundred tablets one at a time, then for no evident reason suddenly begins picking up two at a time, there is a reason for the condition. And when we find that reason we will give you a machine that will be as fool proof as any mechanical device can be. Until then we'll go on striving for perfection.

Lifts

Some of you have difficulties with unequal floor levels, necessitating ramps between buildings. Some no doubt could load and unload trucks more readily if tailboard loading were possible. Why not use more hydraulic lifts? Rotary Lift Co., Memphis, Tenn., produces a variety of lifts some of which operate with compressed air. The installation of one or more of them between floors of unequal height will provide quick transfer from one point to another.

Fitzpatrick's New Mixer

W. J. Fitzpatrick Co., Chicago, makers of the justly famous Model D. Comminuting machine, have brought out a new combination mixer-mill which should be efficient although it looks like Rube Goldberg in person. I like it because it combines agitation with milling. It should make a good face powder machine; it should make a good granulation mixer. This unit is a vertical, tilting job. It is fed from the rear at a point 32 inches from the floor which is all to the good. The loading chute contains both a baffle gate and a slide gate to control the flow of material into the base of a high-speed, helical screw, vertically mounted in the center of the mixer. The upper part of this screw is encased within a tube and directly over this tube is a high speed rotor which rotates at two or three thousand rpm. Material ejected into this rotor by the screw is swirled by centrifugal force against the housing of the mixer, whence it cascades down to the bottom where it mixes with new material and again passes up through the screw. Complete dispersions in four minutes are claimed for this machine. I am told that by simply tilting it forward and removing the head the rotor and the screw can be withdrawn for cleaning in a few minutes. Incidentally, this machine is an improvement on an earlier model, which, frankly, was not so hot.

Old readers of P. F. will remember that off and on for years I have been advocating the development of a combined mixer-mill. I pointed out that the old Hottmann sausage cutter could easily be developed into a combined mixer and mill since it had already all the elements except the hammers. I persuaded Read Machinery Corp. to bring out a combination blender-sifter which is an excellent job. And in general I am in favor of any combination of mixing, milling and sifting elements. They save labor, speed the work and minimize dust by eliminating transfers. This job of Fitzpatrick's—save for looks—has my blessing. It's called the Wagner Triturating Machine and the company is located in Chicago.

The Genesis of Production Forum

I'll frankly confess it's been a whale of a job to write this department and to keep it approximately fresh through more than fourteen years. It wasn't so hard during the early years when I had plenty of time to keep my pants warm sitting in an office chair wondering what the next job would be like. But during the past eight or ten years, and especially since the war, I haven't been able to sit on my pants long enough to get them warm. The demand for my services has been incessant and is increasing to a point where home is where I happen to be at the moment, and even at that moment I ought to be in two other places. Up until the war, however, I had a pearl without price—a really good secretary. She was as efficient as a resigned spinster and she had a remarkably fine mind. Her name was Janet Williams. But in the way of all flesh—especially nice flesh—she got married and her husband snatched her out of my office and practically wrecked the joint. Now I have to think for myself. In writing Production Forum she was particularly helpful because she had the ability to wade through tons of material and spot the things she thought might interest me. Once in a while she comes back again for a few days to pinch hit for current secretaries when they are ill or vacationing. On one such occasion recently I found the following note on my desk after returning from a week's journey. I am

If you use DISTILLED WATER

in any of your processes or products, it is time to get the facts about DE-IONIZED WATER.

Replacing distilled water at a fraction of the cost, this purified water costs less than a dollar for 10,000 gallons! It is meeting exacting standards for pharmaceuticals, chemicals, laboratories, distilleries, war industries.

ILLCO-WAY De-ionizing Units have flow rates ranging from 10 gallons to 50,000 gallons per hour.

Write today for full details and complete literature.

Illinois Water Treatment Company

847-7 CEDAR STREET • ROCKFORD, ILLINOIS

quoting it verbatim because it is interesting and it will show you how easy it once was to write this department. Also it is published as a tribute to a very bright woman.

"While typing the report for American Home Products I had an idea which either has already occurred to you or is probably no good anyhow, but here it is. You mention using Entoleters to kill the weevils, larva, etc. in flour. I don't know what an Entoleter is, but I remember a machine we were interested in some years ago which killed bacteria by a lamp or electric eye or something of the sort. My recollection is vague, as you can see, but I wondered if you couldn't have a chute arrangement which dumped the flour into the plant and, as it passed a certain point, the rays or whatever it was would kill the bugs.

"I've gone through your papers and marked some items which may or may not be of interest to you. You'd better go through them yourself. I noticed and marked three or four different creams that companies are putting out to protect the hands of their workers. How about writing an article mentioning the increasing interest of management in the welfare of labor, since labor has become increasingly feminine? You could bring in the creams, safety devices for long hair,—and of course your previously mentioned bubbie protectors. Now that women are in fields where they have never worked before, they will want all sorts of lotions to protect their hands against different kinds of acids, etc. They will want daintier foods served in the company cafeteria; fewer meats and more salads. They will be more interested in the company health programs and in hospitalization plans. You take it from there.

"I noticed an ad on training films which show the proper method of soldering tips, plugs, etc. published by Cannon Electric Development Co. Why wouldn't it be a smart idea for companies to photograph their own employees at work? These pictures could be studied to find out the most efficient way to operate their own equipment. New employees could be shown these photographs so that they would learn the right way to work instead of copying someone who might be anything but efficient. Seasoned workers are usually irritated and annoyed if they are asked to explain their work to beginners. They frequently leave out important information which they learned so long ago that it has become a part of them. Beginners hate to display their ignorance by asking questions when explanations are inadequate. And so on.

"I went through your left-hand drawer as you suggested over the telephone. I edited, more or less, three publicity releases that were there, sorted the other data, and left it all there. Some of the notes in your handwriting would certainly make interesting reading for P.F."

Step-Valve Pump

Designed specifically for controlled volume pumping against negative differential pressures, the Milton Roy Step-Valve Pump retains all of the essential features

of the Milton Roy double-ball check valve. Outside spring-loading provides ready adjustment for desired load. The single cover plate is readily removable and provides complete accessibility without disturbing intake or discharge piping. This valve affords complete freedom from air-binding. There is minimum restriction of passages since the pumped liquid moves in an almost straight line under the ball checks, not around them.

This type valve is available with Milton Roy Pumps in capacities from 10 g.p.h. up to 1300 g.p.h. and is supplied for pumping viscous materials such as liquid latex, acid sludges, tars and asphalts, salt slurries and textile fibres in suspension. For more details, write Milton Roy Pumps, 1389 E. Mermaid Avenue, Philadelphia, Pa.

Charles Ross & Son Company

This outfit is celebrating its seventy-fifth anniversary and may good luck continue to go with it. I have known Charlie Ross, present head of the company and grandson of the founder, for a good many years. His biography may be epitomized thus: "He's a good guy." Ross makes everything in mills and mixers. Roller mills, buhrstone mills, hopper mills, pulverizers, pony mixers, mass mixers, liquid mixers, powder mixers, sifters, etc. Ross Co. has always been famous because of the ruggedness of construction of their equipment. I used to squabble with Charlie because some of his designs hadn't been changed since the Civil War. But you ought to see the slick design of his new roller mills. His grandpappy would sit up in his grave.

Ampoule Printing et al.

You should get acquainted with Markem Machine Co., Keene, N. H. This outfit as you guessed builds marking machinery. They build equipment to print labels in one or more colors on ampoules—and the printing does not have to be baked to be permanent because the company has developed inks which will etch glass permanently. This is the company which built the equipment for printing on electric light bulbs, radio tubes, pencils, wire or what have you. They are accustomed to printing on concave or convex surfaces or on irregular surfaces.

Machinery Literature

Remember my pet rave about the paucity of machinery literature? Well, it hasn't improved a damn bit. The other day I received in response to a request a bulletin describing certain equipment with which in a general way I was familiar. It was worse than nothing. You were told what the various machines were for. You were told how much they weighed, crated for export. You were told how much horsepower was required to run them and that some models were pulley driven. But not one word about how any machine operated. Not a single decent picture so that you could see for yourself. I'd have tossed that catalogue into the waste basket if I had not known that the machines were really good. From my extended reading of equipment

IF YOU ARE

Packaging

POWDERS

MODEL U
AUGER PACKER

Production 15 to 30 packages per minute. Range 1 oz. to 5 lbs. One operator required. Extreme accuracy.

Other models for higher production.

TRIANGLE CAN HELP YOU!

PRODUCERS of powders or other finely divided substances or similar products requiring tight, accurate packing will find Triangle Auger Packers second to none for speed, flexibility and economy. A complete range of automatic and semi-automatic equipment is available to meet any production requirements.

Triangle experience, based on hundreds of installations of equipment for even the hardest to handle powders, will help you get the best answer for your job in a hurry.

Also a complete line of Fillers, Weighers and Carton Sealers for all dry products. Write for facts and literature today.

ARMY E NAVY

Automatic and Semi-Automatic Weighers, Fillers, and Carton Sealers.

TRIANGLE PACKAGE MACHINERY CO.

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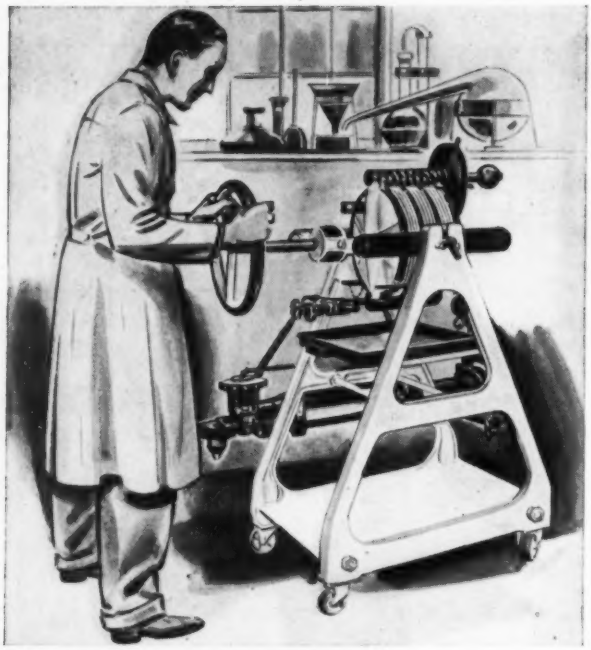
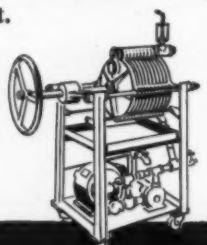
Sales offices in: New York; Framingham, Mass.; Cleveland; Birmingham; Dallas; Denver; Los Angeles; San Francisco.



Ertel maintains a Free Laboratory Service

The Ertel Engineering Corporation maintains a free laboratory service for testing and filtering all liquids sent for test or suggestions. Each sample, after thorough test and filter, is returned with recommendations regarding the correct type of filter sheet best suited for obtaining the results desired. A sufficient quantity of the sheets, determined by test to be correct for solving your problem, are sent for a single set-up in your filter without obligation. In this way the superior results obtained with Ertel Neutral Asbestos Filter Sheets can be verified in your plant.



Illustrates and describes Ertel Liquid Handling Equipment for Drug and Cosmetic industries.

ERTEL
ENGINEERING CORP.
KINGSTON NEW YORK

NEW YORK OFFICE & SHOWROOM
Department E
40 WEST 48th ST.
NEW YORK, 19, N.Y.

literature I'd hesitate to say that one per cent was really effective. Twenty per cent is fair but incomplete. The rest is lousy.

A Company's Personality

Has it occurred to you that your company has its own personality just as an individual has? Some companies have a reputation of being—mean, tight, stiff, stingy, chiseling, square shooting, friendly, cordial. Very often have I heard one of these appelations applied to well-known companies. But not until recently did it occur to me to reflect on the reality of a company's personality. Just as in the case of an individual a pleasing personality can bring immeasurable rewards in favorable publicity and in *favors*. Let me digress on that a moment. During the war period I have sat in conferences of suppliers and have heard sales managers parcelling out allotments for their customers, and in every single case, the square shooting, pleasant to deal with companies got the break. This applied even to small companies whose volume didn't cut much ice. It is only human nature that makes you go all out for the individual or the company you like.

The way to ruin your company's personality is to allow your telephone operator to treat visitors, even though they be salesmen, with indifference, discourtesy or boredom. Allow your telephone operator to be brusque, sharp voiced or fresh. Your phone operator and receptionist can do a lot to make or break your company's personality. So can your purchasing agent. Allow him to keep salesmen cooling their heels for an hour or two until he gets damn good and ready to see them (right now of course all but the die-hard purchasing agents are treating salesmen like human beings). Allow your purchasing agent to browbeat salesmen or to humiliate them personally. Also allow your own salesmen to call on your customers with dirty collars and still dirtier hands; allow them to bluff and lie. When a distinguished person does you the honor to call on your company, keep him waiting in the reception room for twenty minutes with no apology from you or your secretary. If he needs to catch a train by all means don't discommode yourself by placing your car at his disposal. If he has to make a long distance call costing seventy-five cents be sure to charge him for it on the spot. Do all these things—and I am sorry to say that too many companies do—and you and your company will be regarded as a first class son-of-a-bee.

Some companies regard their salesmen as their only point of contact with the world. They go to great lengths to teach their salesmen to act like gentlemen in the field and they act like country boors on the home front. Christ it's no crime because so many people call on you even if many of them want to sell you something. Your own men are out doing the same thing.

On the other hand you can create a personality for your company that is vivid and enduring. You must begin with your telephone operator. Don't keep her on the board until she is so tired that she can't help being sharp and crabbed and easily annoyed. Your

operator should have a pleasant voice and manner and she should be able to make people glad they called whether or not the result was negative. You should have a house rule so that when callers come to see particular executives those executives must receive them instantly and if they cannot because of prior visitors or conferences, their secretaries should receive the visitors and explain circumstances. She should be able to tell them how long Mr. X will be tied up and see that the caller is provided with reading material and cigarettes. If the visitor is a distinguished personage in the trade he should not be made to wait at all even if the person upon whom he is calling is tied up. In such a case some other official or executive should take over and entertain the guest until Mr. X can get free.

If a man calls on you to sell mops or Fuller brushes, he should feel glad he came even if he didn't sell any mops or brushes. If he feels that way, he'll talk and favorable gossip is the best form of publicity.

Washing Returns

Every cosmetic and pharmaceutical plant has to deal with the problem of washing returned and used glassware. The washing department is one in which a large amount of money can be washed down the sewer if you are not careful. You should study the operation. If you do you'll find that much mucky, greasy glassware should be thrown away because it is cheaper to buy new glass. Right now, of course, the glass shortage may force you to wash stuff you should throw away. But don't let this become a habit.

Support Don't Push

Are you the kind of boss who erupts like Vesuvius every two or three weeks when something goes wrong and then goes back to sleep until something else happens? If so you ought to be fired. You can shove a man around but you can't make him like it. You can irritate him to a degree that makes him vengeful. On the other hand you can support him—to use a homely expression that I have often used—by keeping the flat of your hand against his back so that he is always conscious of firm and fair and unremitting pressure. The pressure must be applied from the top. If it is it goes all the way down through the organization.

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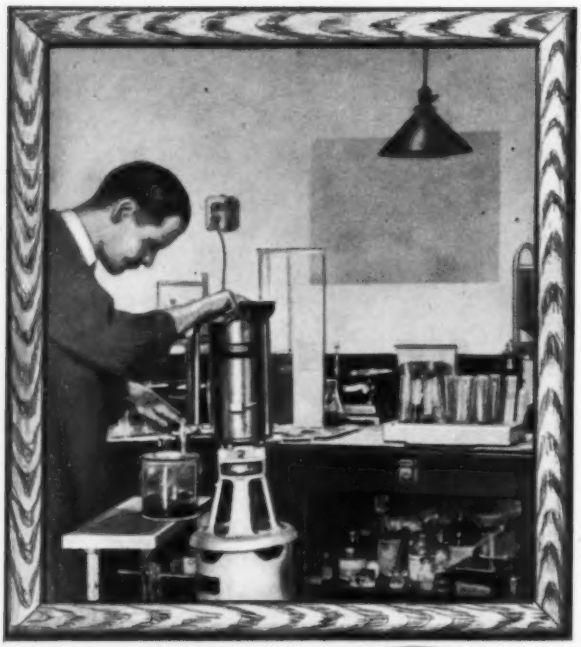
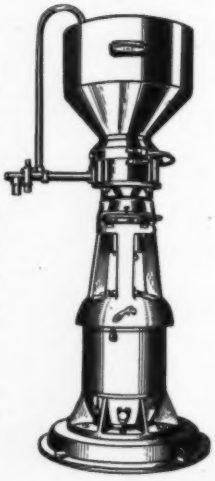


PICTURE OF A grinding homogenizing and/or emulsifying PROBLEM BEING SOLVED

ARE you having difficulty in comminuting solid particles to microscopic dimensions or dispersing them into fluid or plastic materials? If so, we can probably help you.

Send a sample of your raw materials to our laboratory together with your processing instructions. We will make a trial run of your sample in an EPPENBACH WET GRINDING AND COLLOID MILL, WITHOUT CHARGE, then return it for your analysis and criticism.

Eppenbach Mills and Homo-Mixers are unlike any other equipment; they may hold the answer to your problem.



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PROCESSING EQUIPMENT FOR OVER 30 YEARS

A War Vocabulary

SECOND FRONT

In war terminology, "the front" is the most advanced position or field of operation. This war presents many fighting fronts, but our second front should always be the "home front," designed to back up our soldiers, not merely to furnish them with the sinews of war, but to maintain a morale and preserve those elements of democracy of progress and of opportunity worth their fighting for.

Let's continue to build and maintain this "home front" so that when our boys return from the fighting fronts, we may not have been found wanting, or to have failed in serving as we should.

While our prime effort and consideration now must be in winning the war—let's also be ready to win a peace that is worth while. Our secondary thoughts after helping to build and deliver war material is therefore, to plan and prepare for a peace economy and progress, through progressive activity, each in our own particular line of endeavor.

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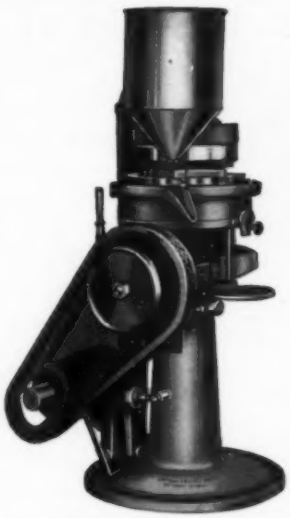

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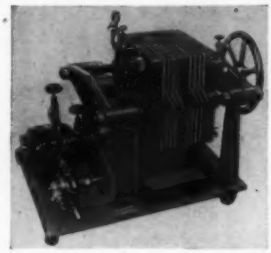

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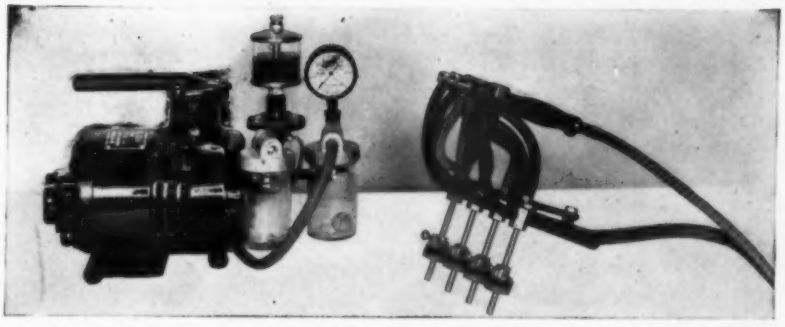
The vacuum pump can be plugged into any convenient outlet. Adjustable valves in a featherweight head accommodate any size bottles from ¼ oz. to quarts. Thoroughly cleans itself in five minutes, permitting the filling of a variety of liquids.

Write our Engineering Department for full information, giving complete information regarding your filling problem. Describe your product, type and size of containers, and the filling speed desired. We will be glad to recommend, without obligation, the filling head and valve combination best suited to your needs.



Write for complete details on this versatile yet inexpensive Horix Portable Vacuum Filler. Prompt deliveries can be made from stock on standard models.

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CONVEYORS *and* FILLERS

Musk

The musk of commerce is one of the most valuable and highly treasured perfume ingredients. Historically, it was said to have been the favorite perfume of Mohammed and was also among the gifts of Saladin to the Emperor of Rome. Marco Polo mentioned musk as a common product of commerce in the East and the name was derived from the Portuguese during their influence in Asia. They called it "mosco," while the Chinese called it "Shay Haing" which means perfume of the deer.

Contrary to common belief the musk pod is not a testicle but a preputial sac about the size of a small orange situated underneath the skin of the abdomen, the orifice of which emerges anterior to that of the genital organs. It is present only in the male deer and the quality and quantity of musk varies depending upon the age of the animal. For the first two years of the animal's life the pods contain only a watery substance with a disagreeable odor. From this period to the time that the animal reaches about seven years of age fresh musk is secreted as an unctuous, brownish semi-liquid but in dried condition as it appears for sale it is in grains of a reddish brown color resembling dried blood. The musk from the younger animal is considered sweeter in odor value than that obtained from the older ones. It is believed that the purpose of the secretion is for sex attraction only, since the gland plays no part in the reproductive system.

The finest quality of musk is the Nanking variety which today is nonexistent. Tonkin musk, considered the best quality obtainable, makes an excellent tincture and is used in the majority of the finest perfumes.

Yunnan musk and musk from the provinces of Assam and Bengal are only fair in quality but are usable when the Tonkin is unobtainable in the market. Finally, the Kabardin musk of Liberia is considered most inferior in quality but has a use in cheaper grades of cosmetics.

Perfumer's Shelf

Oil of Wintergreen

It's news to us, so maybe it's news to you that, according to *Science News Letter* (45:300, 1944), strawberries, blackberries, raspberries, currants, plums, apples, peaches, apricots and some other common fruits contain oil of wintergreen.

Travancore Lemon Grass Oil

According to N. S. Varier (*J. Indian Chem. Soc.*, Ind. & News Ed. 6:40, 1943), after studies on Travancore lemon grass oil, the insolubility of some samples of the freshly distilled lemon grass oil has been shown to be due to the presence of a different grass (white variety) in some of the fields from which the grass was collected for distillation. Even the oil from the red variety of the grass, though soluble when fresh, becomes insoluble on long storage. It does not, however, become insoluble when heated to 100° nor does it contain any myrcene. On rectification by steam distillation the oil, which has been rendered insoluble on aging, yields 80% of a soluble fraction which corresponds to the commercial, soluble, lemon grass oil. The color and citral content also improve by rectification.

Since contamination with the white variety of grass was found to be the cause of insolubility in the fresh oil it was felt desirable to investigate the oil from the white grass more fully. It was found that the oil from the white variety of the grass has characteristics markedly different from those of the red. The aldehyde content is very low; the yield is much greater and the oil is insoluble in 70% alcohol. Further studies established the fact that the oil from the white variety of Travancore lemon grass contains camphene and dipentene, but it does not contain citral. The botanical identity of the grass has not been established and the oil is being investigated further.

Thuya Oil

In an interesting article in the *Perfumery and Essential Oil Record* (34:165, 1943) on thuya oil, it is pointed out that this oil is obtained from the roots and stumps of *Thuya orientalis*, a small coniferous tree indigenous to China, Japan and Persia. It may also occur in East Africa, where the oil is stated to be imported, although the tree is not mentioned as an African plant in the Indian Kewensis. It is cultivated in this country as an ornamental tree under the synonym of *Biota orientalis*, Endl., is commonly called the Chinese Arbor Vitae, and about a dozen varieties of the tree are met with in gardens and shrubberies. It was placed by Endlicher in the genus *Biota* because the seeds are wingless, and the cones more rounded, with opposite, more numerous, scales than in *Thuya*, but it is now retained in that genus, in which it was placed by Linnaeus. It grows from 15-20 ft. high, and has compressed crowded branchlets, and very small bright green leaves closely overlapping each other, each leaf having a depression or channel above, but no tubercules. The odor is quite different from that of the American Arbor Vitae (*Thuya occidentalis*, Linn.), which is generally considered to be disagreeable, and somewhat sickly, while that of *T. orientalis* recalls the odor of thyme and camphor, or of thymochinon. It is said to yield 2.75% of oil of specific gravity 0.979. The wood is useful for its resistance to dampness.

Rapid Test of Orange-Flower Water

In describing a rapid procedure for the examination of orange-flower water, R. Danet (*J. Pharm. Chim.* 1:434, 1941) states that the method depends on the colorimetric determination of the methyl ester of anthranilic acid by diazotization and coupling with 2-naphthol. The method is as follows: Treat 5 cc. of the orange-flower water with 0.25 cc. of a 10 per cent sodium nitrite solution and 0.25 cc. of acetic acid, couple with 0.5 cc. of a saturated solution of 2-naphthol in ammonia and dissolve the precipitate with 4 cc. of acetone. A standard solution is prepared by using the methyl ester.

Rose Buds for Flavor

In French Morocco, says an item in *Foreign Commerce Weekly* for June 3, 1944 not much emphasis is placed on growing rose leaves for perfumes because dried rose buds bring a high price when exported to Moslem countries to be used in perfumed lotions and flavor for pastries.

NO SHORTAGES

. . . . . OF THE

AMBREINE

This Specialty is highly valued for its amber-like character.

AMBRONIA

An ideal base for many French type perfumes; a soft, warm amber note.

AURANTIUM

Possesses an orange blossom-lily odor; very stable and lasting.

CARNATION ALPHA

This composition has a deep, spicy note useful for straight or modified carnation effects.

CHYPRE #5

Provides a good working basis for this popular perfume.

COLOGNE #20

For straight citrus type colognes; matchless for its fresh, clean fragrance.

FLEUROLIA

A unique floral note. May be used with other odors to produce a more distinctive effect.

FRANKINOL

A powerful olibanum character of outstan value; useful for its deep, balsamic effect.

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An interesting and useful material; gives refreshing "lift" to the composition.

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Excellent replacement for heliotropin; sli coloration and much reduced allergic action

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This Specialty imparts a soft, sweet, pleas dued oriental effect. Provides its own fixat

ORISIA

A fine ionone character suggestive of orris; deep tonality.

ROSALDEHYDE

An important ingredient for rose type com possesses a powerful rose leaf character.

VIRIDIA

The green, somewha note of this interesting will prove useful in originality of effect.

*If your firm ceived one o books, you copy as long ent supply o dressing us o head and m ad.

THESE INGREDIENTS! . . .

. . . Of intriguing new odors . . . or of smartly conceived packaging! To be sure, certain material ingredients may be lacking, but as long as perfume and cosmetic manufacturers can still claim odor and eye appeal for their finished products, they need have no serious worry about sales.

Packaging, of course, is not our line, whereas fine perfuming *is*. Therefore, we feel reasonably sure we can lend a helping hand toward the solution of any problem relating to the latter. Right now, for instance, many manufacturers are seeking new and arresting odor effects for their products. In this connection, reference to our extensive line of FRITZBRO SPECIALTIES reveals a number of basic materials capable of giving new direction to the creative efforts of their perfumers. Even as modifiers, these materials will impart fullness or lift, tonality or depth, to compositions now lacking these essential characteristics. A selection of such Specialties, taken from our recently published Perfumers' Handbook and Catalog*, is presented herewith. Look over this list and write us on your letterhead for samples of any that interest you. Or if you have some problem with which our laboratories might assist you, write us fully and we'll gladly render all the help we can.

IKINOL

haracter of outstanding odor
, balsamic effect.

OLIAGE #5

l material; gives a pleasant,
omposition.

EURS CONCRETE

r heliotropin; slighter dis-
ced allergic action.

PANAX

soft, sweet, pleasantly sub-
vides its own fixation.

ISIA

ggestive of orris; has a full,

DEHYDE

for rose type compositions;
leaf character.

IDIA

green, somewhat flowery
of this interesting material
prove useful in achieving
ality of effect.

**If your firm has not received one of these Handbooks, you may have a copy as long as the present supply lasts by addressing us on your letterhead and mentioning this ad.*

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LET US RETAIN OUR ADVANTAGES . . .

ASIDE from War Bonds and the daily necessities of living, there is actually precious little left to attract the consumers' surplus dollars. One has only to judge the articles now available on the basis of past standards to realize that, in general, they are commonplace, uninspiring and inferior. It is to the lasting credit, therefore, of perfume and cosmetic manufacturers that they have not allowed *their* products to fall into this unhappy rut. Naturally, some diminishing of quality has been unavoidable due to the enforced use of substitutes, but through the generous application of imagination and originality, they have managed to maintain those basic appeals of scent and appearance which have always made their products outstandingly attractive. It is the job of every manufacturer and supplier to help preserve the inherent advantages of our trade and thus *deserve* a continuing share of the consuming buyer's dollar. Toward that end, we offer here a thought or two which may be helpful . . .

PLEASE UNFOLD THE PAGE

DUROFIX . . . . . .

HERE is a product that should be available in every perfumer's laboratory. Its purpose is to simplify the problem of odor fixation. Those who have used it know its value; those who have not should investigate its advantages. If you are interested . . .

LEASE TURN THE PAGE

FRITZSCHE BROTHERS, Inc.

TRY... DUROFIX

...IT'S GUARANTEED TO ADD LONGER LIFE TO YOUR PRODUCT'S FRAGRANCE

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Brazilian Menthol

A note in *Chemical and Engineering News* (22:862, 1944) states that the production of menthol in Brazil during the 1943-44 season promises to be below early trade expectations, according to the Department of Commerce. The trade had based its estimates upon an expected yield of 500 to 600 metric tons of mint. The Bank of Brazil subsequently estimated the mint yield at from 150 to 200 metric tons. The bank considered reducing the fixed price of menthol from $29 to $26 per unit of 2.2 pounds. The higher price had been fixed to prevent, it was said, a sharp decline when the output skyrocketed in response to the expected larger mint crop. In view of the changed situation it is reported that the reduction in fixed price will not be made.

Turpentine Oil Studies

Because the production of oil of turpentine is an important industry in the South and because the oil is widely used as an internal and external medicament, in addition to being a major ingredient of several proprietary medicinal products, W. T. Sumerford, A. B. Huff and O. K. Coleman (*J.A.Ph.A.* 33:150, 1940) undertook a pharmaceutical study of the purity and preservation of American oils of turpentine. In this work, samples of two oils of turpentine from wood and four from the oleoresin (gum) were tested for purity, before and after rectification, according to the specifications and procedures given in the U.S.P. XII.

It was found that, of the six oils examined, the four oleoresin oils were definitely purer than the oils obtained from wood by extraction and destructive distillation, respectively, although the purity of the wood oil obtained by extraction approaches that of the oils from the oleoresin. As judged by the official tests selected to determine purity, the wood oils and the oleoresin oils were about equal in their stability with respect to the number of changes undergone under various storage conditions, but the wood oils changed to a greater degree. Light had little influence on the stability of the oils, but the amount of air in contact with the sample profoundly affected it in all cases. Closed tin containers are about equal to glass for the preservation of these oils, but aluminum containers proved unsatisfactory for this purpose.

Under the influence of chemical preservatives, the sample of oil obtained by the extraction of wood held up better than did the other samples, while the destructively distilled wood oil was the most difficult to preserve. The most effective chemical preservatives were in the order named: hydroquinone, *p*-benzylaminophenol, hydroquinone monomethyl ether, catechol, guaiacol and *p*-nitrosophenol sodium.

Oil of Tansy

According to E. Guenther (*Chemurgic Digest* 3:18, 1944) oil of tansy is obtained by distillation from *Tanacetum vulgare L.*, a strong-scented, herbaceous perennial that grows wild in many parts of the United States. However, for the distillation of its oil, tansy is now grown commercially in southern Michigan and northern Indiana, South Bend being the center of this industry.

Oil of tansy is a yellowish liquid which turns brown under the influence of light and air. Analysis of several lots of the oil showed it to have physical and chemical properties varying between the following limits:

Specific Gravity at 15°C.	**0.918 to 0.932**
Optical Rotation	**+27°54′ to +38°50′**
Refractive Index at 20°C.	**1.4576 to 1.4631**
Saponification Value	**4.7 to 26.1**
Ester Value after Acetylation	**29.2 to 69.1**
Thujone Content	**60.8 to 67.3%**
Solubility	**Soluble in 2 to 3 volumes of 70% alcohol, clear or turbid with more. (A number of oils were found to be insoluble in 70% alcohol.)**

Reworking the oil improves the solubility, and the constants of such twice rectified oils fall within the following limits:

Specific Gravity at 15°C.	**0.924 to 0.927.**
Optical Rotation	**+33°10′ to +34°10′**
Refractive Index at 20°C.	**1.4597 to 1.4610**
Saponification Value	**4.7 to 19.6**
Ester Value after Acetylation	**49.5 to 54.1**
Thujone Content	**64.6%**
Solubility at 20°C.	**Soluble in 2.5 to 3 volumes and more of 70% alcohol.**

Studies of its chemical composition show that almost 70 per cent of tansy oil consists of beta-thujone. It has been found that thujone occurs in oil of tansy as the dextrorotating beta-isomere. Other chemists have established the presence of relatively large quantities of the quite rare levomodification of camphor in tansy oil, aside from a little borneol terpenes. Whether the small quantities of terpenes (boiling around 160 C.) consist of pinene or camphene, is still open to investigation.

Modified Kreis Test

The standard Kreis test for determining the presence of deteriorated oils and fats has been modified by J. H. Jones (*J. Assoc. Official Agr. Chem.* 27: 128, 1944) to permit its application to cosmetic preparations. The proposed method, the technic for which is described in detail in the original report, consists essentially in adding sufficient mineral oil to prevent precipitation of paraffin, beeswax, etc., which are so frequently present in cosmetic emulsions. This is followed by the addition of an equal volume of concentrated hydrochloric acid, aerating for 30 minutes and absorbing the volatile substances entrained in the air in a freshly prepared solution of 0.2 Gm. phloroglucinol in 100 ml. of 1 + 9 hydrochloric acid. A pink color in the absorption solution indicates deteriorated oils; a yellow color or cloudiness shou'd be disregarded. No mineral oil need be added to liquid samples consisting essentially of oils. Two vo!umes of mineral oil should be added to solids or emulsions containing at least 50 per cent oil. Emulsions or solutions containing a low percentage of oils should be evaporated in a vacuum desiccator at room temperature to an oil content of over 50 per cent before adding the mineral oil. The test gave negative results when tried on 31 substances likely to be found in cosmetics, though many of them produced colors varying from a yellow to deep red with Taufel's absorption solution which consists of 0.2 per cent phloroglucinol in concentrated hydrochloric acid.

New Aniseed Oil Constituents

In reporting on some new constituents of aniseed oil, L. Benezet and M. Brun (*Ann. Chim., anal. Chim. appl.* 23:263, 1941, through *Chem. Abstr.* 38:2164, 1944) state that benzoic, salicylic, anisic, decanoic, palmitic and tiglic acids were detected. The phenol fraction contains hydroquinone monoethyl ether and hydroquinone which are presumably present as glucosides in the fruit of *Illicium verum* Hooker fil.

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Cosmetic Stabilizer

According to the claims and specifications of British Patent 551,369, granted to C. L. Walsh and A. A. Newman, cosmetic creams and ointments may be stabilized and otherwise improved by adding to them a gelatinous material extracted from the fleshy growth of the agave and sisal plants by treating this vegetable matter with an alkaline solution. The gelatinous matter may be added either in its acid form or in the form of the sodium or potassium salt.

Foot Preparations

In a review of preparations for the feet, G. H. Allen (*S.P.C.* 17:242, 1944) presents several formulas that are of definite interest. For example, a simple and medically approved formula for salicylic acid collodion for treating corns is as follows:

Salicylic acid	**8 parts**
Cannabis indica extract	**1 part**
Flexible collodion	**60 parts**

This preparation softens and breaks up the corn, which may then be picked away gradually or carefully abraded with pumice-stone. It is suggested that, after removal of the corn, the skin of the foot should be hardened by daily bathing for some time in salt water or spirit.

Because it sppears that the Indian hemp extract is more useful as a coloring agent than as a local anesthetic, Allen lists the following preparation which eliminates the need for this ingredient:

Salicylic acid	**1 oz.**
Chloretone	**2 dr.**
Chlorophyll	**20 gr.**
Flexible collodion	**10 oz.**

A more modern, effective corn remedy consists of 20 parts each of 25 per cent 40-second cotton in ethyl acetate, specially denatured alcohol No. 1, and ethyl acetate; 10 parts sulfuric acid; 12 parts salicylic acid; 1 part each of chlorbutanol, castor oil and gum camphor and 15 parts toluol to make 100. This solution may be tinted an amber or green, and coloring is best accomplished with an oil-soluble color.

Corn salves and ointments are definitely not so good as collodions and plasters, for the reason that they tend to spread out and cause irritation to the adjacent healthy (and sometimes tender) skin.

Allen remarks that bathing the feet is a time-honored means of banishing the weariness induced by tired, aching feet. The addition of special substances sometimes increases the pleasure and benefit to be derived from foot baths. The following formula is a typical instance:

Menthol	**5 parts**
Alum	**10 "**
Boric acid	**20 "**
Magnesium sulfate	**30 "**

The literature contains numerous formulae for chilblain balms, ointments, lotions and collodions. Thus, the constitution of a once-popular type of Chilblain Tablet is given as approximately:

Yellow resin	**1 part**
Yellow wax	**3 parts**
Benzoated lard	**6 "**
Oil of cajeput	**1 part**
Camphor	**1 "**

The first three constituents are melted together and, after the mass has cooled a little, the last two are added. The molten mass is then poured into chilled molds.

Mutzenbecher's Chilblain Balsam contains 3 parts each of iodine and camphor, 20 parts of ether and 74 of flexible collodion.

Pawpaw for Skin Irritation

An item in the Manufacturing Chemist *(15:151, 1944) credits the Australian Minister of Commerce for the report that research workers connected with the Australian wool industry have developed a process for preventing skin irritation from wool by treatment with the juice of the pawpaw.*

Skin Protective Against Tetryl

In a discussion on dermatitis from explosives, L. Schwartz of the U. S. Public Health Service reports in the *J.A.M.A.* (125:186, 1944) that dermatitis caused by tetryl (trinitrophenylmethylnitramine) is probably the most frequent cutaneous hazard accompanying the manufacture of munitions. The most common sites of tetryl dermatitis are about the mouth, on the cheeks, around the eyes and on the neck. The condition is often quite severe and may occur on other parts of the body touched with soiled hands. Suitable precautions, outlined by Schwartz should be followed and since the skin of the face is affected from touching it with soiled fingers and from irritation caused by the respirator touching the face, a protective preparation should be applied to it. Such an application should be of the invisible glove type reinforced by a powder to prevent it from being easily penetrated by sharp particles. The formula given below has been found to give better protection than any other available:

Shellac	**13 parts**
Isopropyl alcohol	**31 "**
Linseed oil	**4 "**
Titanium oxide	**12 "**
Sodium perborate	**13 "**
Talcum	**20 "**
Carbitol (monoethyl ether of diethylene glycol)	**3 "**

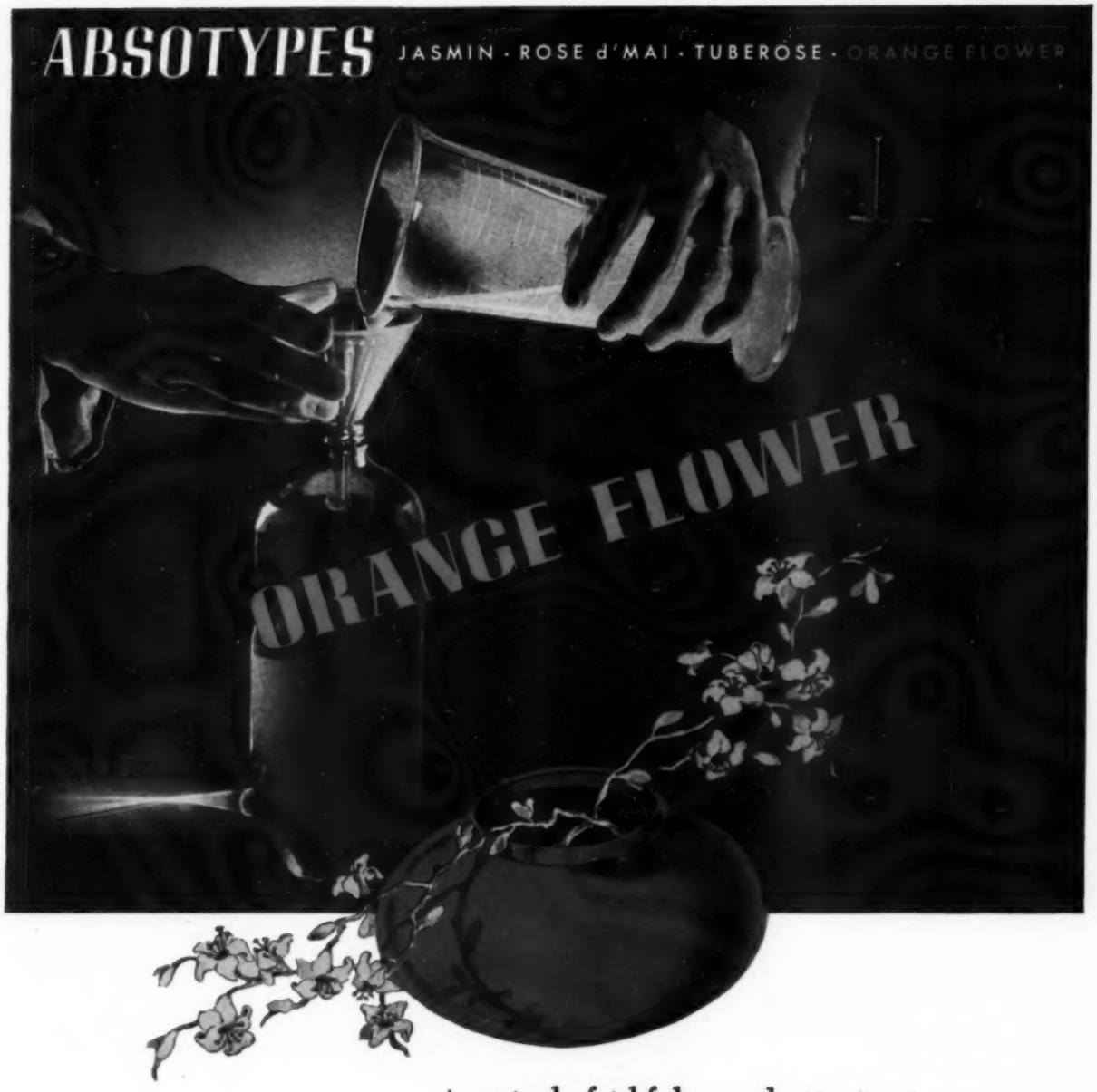
A water-soluble type of application, such as the following, also gives considerable protection against tetryl dermatitis:

Casein	**20 parts**
Zinc oxide	**20 "**
Iron oxide	**2 "**
Water	**58 "**

The treatment of tetryl dermatitis consists in the application of cold boric acid dressings to the swollen face, followed by mild ointments as the swelling disappears and desquamation occurs.

Hair Dye Patent

A method for improving the efficacy of hair dyes appears in German Patent 717,748 issued to E. Lehmann and assigned to the I. G. Farbenindustrie. It is claimed that the improvement in dyeing results when cationiacally active compounds, which spread well on the hair, are used in conjunction with acid monoazo or polyazo dyes. The patent claims that the cationiac substance reacts with the acid groups of the azo dye to form insoluble dye-ammonia double compounds.



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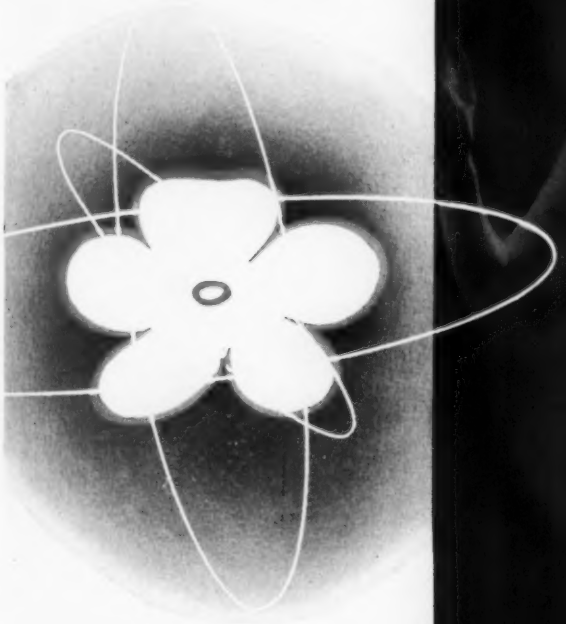

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Cellulosic Enteric Coating

Cellulose acetate phthalate, a mixed ester of cellulose, appears to offer interesting potentialities as an enteric coating, according to the findings of a group of workers at the University of Rochester. Their findings, as reported in the March 1944 issue of the Journal of Pharmacology and Experimental Therapeutics, *indicate that the four properties of this compound which suggest it as suitable for enteric coating of pills and capsules are extreme insolubility in acid solution, rapid solubility in even dilute alkaline solution, the ease with which it can be applied as a thin coating, and lack of toxicity.*

Carefully-performed tests on a series of human subjects and the use of fluoroscopy and X-rays to check the disintegration rate in the gastro-intestinal tract showed that disintegration in the stomach was negligible, but that capsules and tablets coated with cellulose acetate phthalate all disintegrated within a time judged sufficient to make the contents available for complete absorption in the intestinal tract.

Acne Treatment

For four years, J. H. Swartz and I. H. Blank (*J.A.M.A.* 125:30, 1944) have been using a detergent containing 25 per cent sulfated oil, 25 per cent mineral oil and 50 per cent water as a cleaning agent for patients with acne vulgaris. Since the sulfated oil is used in a different way than soap, patients must be instructed in its employment.

For treating the three types of acne vulgaris (e.g. juvenile, papulo-pustular and indurated); they recommmend the following: (1) thorough cleansing with sulfated oil three times daily followed by the application of borated alcohol each time, (2) mechanical removal of comedones and (3) a diet. The borated alcohol is prepared by mixing equal parts of saturated aqueous boric acid solution and 70 per cent ethyl alcohol. The patient is shown how to remove the comedones with a comedo extractor which has been sterilized by boiling. The patient should be instructed to remove comedones twice a week. Thorough cleansing with the sulfated oil and the application of borated alcohol should precede comedo removal, and the borated alcohol should also be applied after removal. Chocolate, nuts and cooked fats are eliminated from the patient's diet.

With this therapy the juvenile type of acne vulgaris usually shows a satisfactory response. For the papulopustular type of acne vulgaris, ultraviolet irradiation and the nightly use of a shake lotion are often added to the aforementioned therapy. For patients who have light complexions or for those whose skin is not very oily, the lotion given below is prescribed:

	Gm. or Cc.
Calamine	**4.0**
Zinc oxide	**8.0**
Phenol	**2.0**
Glycerine	**8.0**
Spirit of camphor	**4.0**
Distilled water, to make	**240.0**

For patients who have a dark complexion and for those whose skin is quite oily, a more "drying" lotion is prescribed:

	Gm. or Cc.
Calamine	**2.0**
Zinc oxide	**4.0**
Phenol	**1.0**
Spirit of camphor	**8.0**
Precipitated sulfur	**8.0**
Alcohol	**120.0**
Distilled water, to make	**240.0**

Roentgen therapy is most frequently used for the indurated type of acne vulgaris and especially when response to other types of therapy has been slow.

Vasosulfa Compounds

Increasing use of sodium sulfathiazole for intranasal therapy encouraged W. F. Hamilton, M. F. George, Jr., E. Simon and F. M. Turnbull (J.A.Ph.A. *33:142, 1944) to make further investigations on suitable, stable aqueous solutions of this sulfa compound. The chief difficulty encountered was the lack of stability of the liquids, but it was found that sodium sulfite, together with glycerin, is effective as a stabilizer for aqueous sodium sulfathiazole solutions.*

These studies also revealed that vasosulfa compounds may be readily and conveniently synthesized by a double decomposition reaction in aqueous solution involving the sodium salt of the sulfonamide and an acid salt of the vasoconstrictor. Thus, the formation of desoxyephedronium sulfathiazole makes possible the formulation of a very useful solution for intranasal therapy:

Sodium sulfathiazole sesquihydrate	**2.5%**	**by weight**
Sodium sulfite anhydrous C.P.	**2.0%**	**by weight**
Glycerin	**1.0%**	**by volume**
***dl*-Desoxyephedrine hydrochloride)**	**0.125%**	**by weight**

Heat the above ingredients with sufficient water to dissolve, and add 0.8% 0.6 N hydrochloric acid by volume, or sufficient acid to bring the pH of the solution to approximately 8.7. Sterilize by boiling, and add flavoring and coloring ingredients to suit.

After cooling, the pH of the finished stabilized solution is approximately 9.0. Prolonged exposure to sunlight tends to increase the pH of the solution slightly. Similarly, prolonged exposure to air tends to decrease the pH of the solution somewhat. Since these two factors work in opposite directions, only very unusual treatment will cause the pH of the solution to vary above or below the indicated value. It is essential that the solution be packaged in high-grade glass bottles.

The investigators report that the high physiological activity of desoxyephedronium sulfathiazole is beneficial because only a very small amount is necessary to produce the desired clinical result. Undesirable side effects such as sleeplessness, nervousness, tachycardia, sneezing and the like are practically unknown when only 1/8% dl-desoxyephedrine hydrochloride is used in a solution of sodium sulfathiazole for nasal drops or spray.

It should be noted that the material above forms the basis of a pending patent.

Cocoa Butter Substitute

Because of current scarcities of cocoa butter, essential for edible, pharmaceutical and cosmetic products, the U. S. Department of Agriculture sponsored work to find a substitute for this fatty material. The results of these investigations, undertaken by E. A. Kraemer, B. A. Smith and A. E. Bailey has been reported in *Oil and Soap* (20: 235, 1944). They reported that by selective hydrogenation and fractional crystallization from solvents a hard butter was produced from cottonseed oil which had similar properties to cocoa butter. It differs from it in composition, however, due to the presence of isooleic acid. It also shows minor physical differences, having a slightly longer plastic range, supercooling less and contracting less on solidifying, while not showing so marked polymorphism. A yield of 28% was obtained from the cottonseed oil, the product obtained being most like cocoa butter. The large amount of residue (72%) was used as a hardening agent in shortening products.

New Nicotinic Acid Source

According to a note in Planning *for June 8, 1944, nicotinic acid, one of the important members of the B complex, may be obtained from coal tar and bone oil by a process developed at the Pittsburgh division of the Carnegie-Illinois Steel Corp.*

3 NEW PRODUCTS

1—a new absorption base—
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This absorption base does not contain either lanolin or lanolin products and has considerably higher water absorption properties than absorption bases containing such products. Sorbotex 301 makes white, stable water-in-oil emulsions that will neither separate nor darken. Small additions to oil-in-water emulsions improve texture and increase stability.

Suggested uses: night creams, cold cream, ointment bases, permanent wave preparations, and similar products. Can also be used as an extender for lanolin.

2—a new dispersing agent—
DISPERSOL 31

This new synthetic organic solvent and dispersing agent for dyes and pigments has considerably greater solvent action than castor oil. It is miscible with all vegetable and mineral oils and waxes. Will not turn rancid.

Suggested uses: for dissolving bromacid and lake colors for lipstick and cream rouge. May be used as a complete or partial replacement for castor oil without change in balance of formula.

3—a new emulsifier—
CERASYNT IP

This is a new self-emulsifying wax that stabilizes emulsions containing large percentages of strongly alkaline or acid-reacting electrolytic substances.

Suggested uses: deodorant and permanent wave creams, water-soluble ointment bases, etc.

Samples of any of the aforementioned products will gladly be sent upon request.

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ADVANCING THERAPY

Sulfaguanidine for Cholera

After obtaining favorable results with sulfaguanidine in cases of bacillary dysentery, J. Huang (*J.A.M.A.* 125:23, 1944) undertook to try the drug in cases of Asiatic cholera. In 19 adults, 3 Gm. was given as a first dose and 1 Gm. every two hours for six times; then 1 Gm. every four hours for one to two days. One patient was a boy aged 11 years. The first dose was 2 Gm., and the maintaining doses were 0.75 Gm. Another patient, a girl aged 6 years, was given 1.5 Gm. as a first dose and 0.5 Gm. as maintaining dose. Of the 22 patients treated with sulfaguanidine, 21 were cured in a short time and one died within three days. This is in marked contrast to the usual findings in this disease, since the mortality rate for Asiatic cholera ranges from 20 to 60 per cent in various clinics. On the basis of these observations, Huang believes that the combined use of sulfaguanidine and salt solution injections will reduce the mortality to less than 5 per cent.

Vitamins in Old Age

In a discussion of the medical care of the elderly, R. I. Lee (*New England J. Med.* 230:190, 1944) emphasizes the importance of the proper food in adequate quantity and quality, and believes that vitamin concentrates which are of particular value in restricted diets generally are especially valuable for aged individuals. The elements of the vitamin B complex are thought to be indicated in older people because these factors are easily used up in the human economy and have to be replaced almost continuously. In older people, the carbohydrate intake is apt to be increased and the use of large amounts of fat and roughage in the diet are often contraindicated; certain components of the vitamin B complex are needed for catalysts in the metabolism of carbohydrates. It is generally known that there is a diminution in the secretion of the digestive juices in elderly people so that the administration of hydrochloric acid, pepsin, pancreatic extract and bile are often found to be of great value in aiding digestion.

B Vitamins Reduce Promin Toxicity

Promin, a relative of the sulfa drugs, has shown indications of being valuable in the treatment of tuberculosis. However, when given to rats by mouth, it exerts severe toxic effects. According to G. M. Higgins of the Mayo Clinic (through *Science* Suppl., May 19, 1944) this can be overcome in large measure by allowing the experimental animals to partake freely of B vitamins. It was noted that promin-treated animals sometimes increased their thiamin, riboflavin and pyridoxine intake to six times that considered essential for normal nutrition. With this high vitamin intake, the animals displayed no signs of irritability, did not grow bald, retained their appetites and lost no weight. Signs of cyanosis were far less marked and the anemic condition improved.

Administration of Oily Nasal Sprays

In investigations to determine the proper and improper administration of oily nasal sprays, B. L. Griesman (*Arch. of Ololaryng.* 39:124, 1944) made X-ray studies of the distribution of intranasally sprayed oils in therapeutic dosage and in massive overdosage. Iodized poppyseed oil was admixed to the oils to be tested in order to insure roentgenographic visibility.

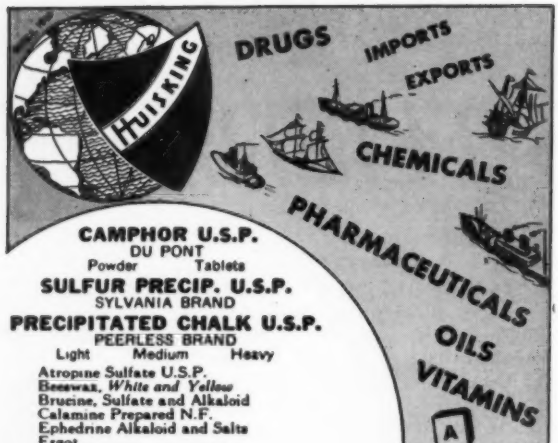
He found that healthy persons, irrespective of age, might aspirate oil (primarily when sprayed) even in therapeutic dosage if the oil is improperly administered. The presence or the absence of tonsils and adenoids and the use of a 1 per cent solution of an ephedrine salt prior to the administration of oil apparently do not increase the danger of oil aspiration. Scarring in the tonsillar beds and injury to the posterior pillars after tonsillectomy tend to increase the danger that oil will be aspirated if the oil is incorrectly administered. Oil is carried downward by the force of gravity. The decisive factor of safety or danger is the position in which the head is held during and after the administration of oil. The danger begins and increases with the size of the angle of the backward inclination of the head. There is no danger when the head is held straight or bent forward, even when massive doses are employed. The factor of safety increases with the size of the angle of the forward inclination of the head.

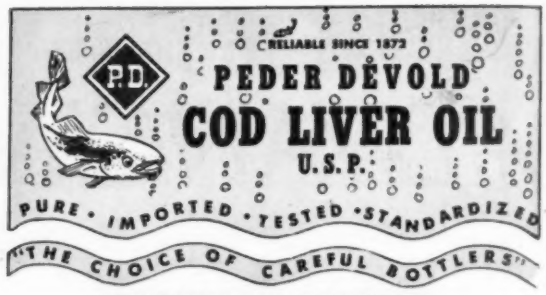
Mineral Oil and Dietary Factors

Further evidence of the possible harmful effects on nutrition from the improper use of mineral oil is given in work reported by the U. S. Department of Agriculture (*Science* Suppl. June 2, 1944). Mineral oil, it is stated, has been finding increasing use in preparing salted peanuts, potato chips and doughnuts. Its prolonged use may lead to deficiency diseases because the oil prevents full utility of certain food essentials. Recent studies at the Arizona Station show that not only does mineral oil interfere with the utilization of vitamin A, but also of vitamin D, calcium and phosphorus. Rats taking mineral oil required three times as much cod liver oil to supply vitamin D as did the control animals. Puppies fed mineral oil could not utilize their dietary calcium and phosphorus required in bone-building.

Penicillin in Pneumonia

W. S. Tillett, M. J. Gambier and J. E. McCormack (*Bull. N. Y. Acad. Med.* 20:142, 1944) reported the results obtained from the use of penicillin in the treatment of 46 patients with pneumonia. They limited the use of this drug to those who on admission exhibited lobar consolidation and a degree of severity indicating the probable pneumococcic etiology of the infection. Penicillin was highly effective in the treatment of pneumococcic pneumonia. Of the 46 patients, 3 died and 39 recovered in a manner indicating the special value of the drug. Eight patients with pneumococcic empyema were treated with intrapleural injections of penicillin. In 7 the infection was eliminated without surgical drainage. Six of them recovered completely with only a restricted area of pleural thickening remaining as a permanent alteration.





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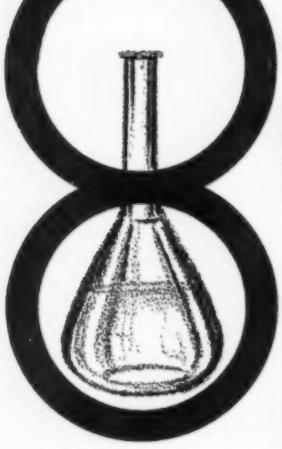

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Penicillin Mold Injections

A new and apparently better way of obtaining the effects of penicillin, by actual injection of part of the penicillium mold itself, is indicated in a report by H. E. Enoch and W. K. S. Wallerstein in *Nature* for March 25, 1944. The material used is a suspension in fluid medium of the hyphae, or filaments, of the mold. They are taken from below the mycelium, or mat of mold filaments, on top of the culture at the stage of its highest rate of penicillin production. The material is freed of pyrogenic substances and other impurities and is equally efficient whether given intravenously or intramuscularly. It is reported that no toxic effects resulted in animals or humans from this method of using the mold material. In contrast to penicillin itself, which is rapidly eliminated via the kidneys, one injection of the living mold substance has an effect that appears to last for from 36 to 48 hours.

The response to treatment is prompt, usually within three or four hours after the first injection. Fever dropped and there was immediate relief of pain in the trials on laboratory animals. Results have already been obtained in human cases of pneumonia that failed to respond to sulfa drugs, and in acute staphylococcal, streptococcal and other infections. It seemed "exceptionally potent" when used in treating open wounds with mixed, fever-causing infections.

Sulfas and Coordination

It is frequently recommended that persons given sulfa drugs refrain from undertaking work involving high muscular coordination, important decisions or other essential activity requiring mental concentration. Because the sulfa drugs may eventually be widely used as a prophylactic measure in healthy persons to prevent threatened epidemics of meningococcic meningitis or other infectious diseases, A. H. Price and J. C. Pedulla (*J.A.M.A.* 125:105, 1944) undertook to study the effect of sulfadiazine on the coordination and reaction time of young men under conditions equivalent to those encountered in driving.

In this work 90 healthy young men were given sulfadiazine by mouth. Two Gm. was the initial dose, and 1 Gm. was given every four hours for a total of 19 Gm. A special apparatus which simulated actual working conditions was used to measure the coordination and reaction time in persons who were given sulfadiazine and in those used as controls. Eye-hand coordination and reaction times were automatically recorded by an electric clock. Tests were made before the administration, during and seven days after the drug was discontinued. There was no significant difference between the controls and those subjects given sulfadiazine.

Glucose for Severe Thirst

According to J. L. Gamble in a talk before the American Philosophical Society, men in dire need of water can meet part of their fluid requirements through eating glycose. Gamble reported that a part of the water requirement found for fasting can be replaced by glucose and that all of the physiological benefits of glucose can be gained at no cost to the water exchange. The method by which the body can make use of the elements in this sugar is quite complex, but it can be done if the body need is great enough.

Sulfabenamide for TB

In a talk before the American Society for Clinical Investigation, R. Gubner stated that "encouraging" results had been obtained in treating tuberculosis with sulfabenamide, a new sulfa drug with a fatty acid component. No harmful or toxic effects resulted even when almost an ounce was given within sixteen hours, or when treatment was protracted. In five cases of advanced bilateral pulmonary tuberculosis, daily doses were kept up for an average period of ten months. Tuberculosis germs disappeared from the sputum of all five, and X-ray pictures showed that lungs had healed. The superiority of sulfabenamide apparently lies in its fatty acid constituent, whereby it can penetrate the waxy outer coating of the tubercle bacillus. However, Gubner warned that no conclusions are as yet warranted as to the curative value of this new sulfa drug.

Flavacidin: Mold Antibacterial

Under certain conditions, report C. M. McKee, G. Rake and C. L. Houck (*J. Bacteriol.* 47: 187, 1944), the mold *aspergillus flavus* produces a substance, called flavacidin, which resembles penicillin in many respects, as follows: (1) Both are highly active against gram-positive organisms and relatively inactive against gram-negative bacilli; (2) the two protect mice in equal degree against pneumococcic infection; (3) both are highly soluble and hence are readily absorbed after parenteral inoculation and are quickly excreted by the kidneys; (4) cultures resistant to the action of penicillin are resistant also to flavacidin but not to other antibiotic substances; (5) an enzyme active against penicillin is actice also against flavacidin but not against other antibiotic substances.

Anti-Measles Globulin

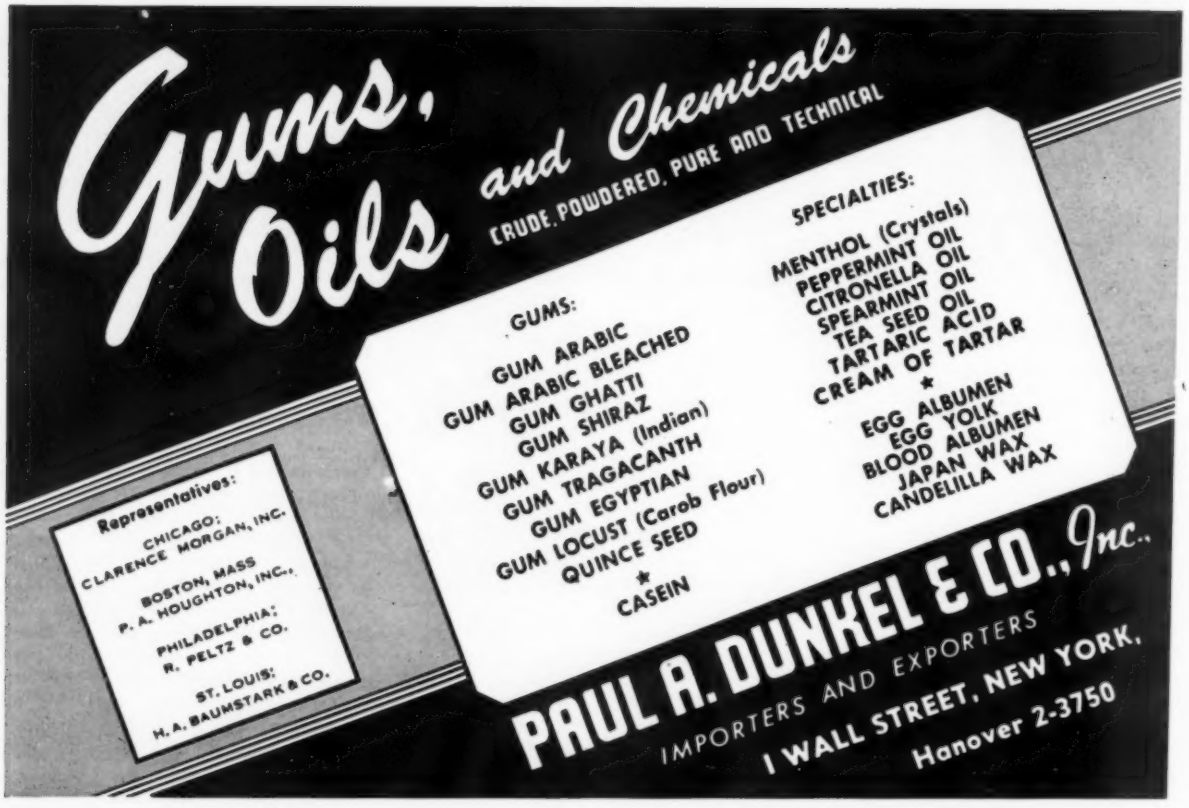
According to a statement from the War Department a new and effective method for the prevention of epidemics of measles has been developed by a group of scientists carrying on researches for the Preventive Medicine Service of the Office of The Surgeon General of the U. S. Army.

Blood plasma, already in use on every battlefield in the world for the prevention of shock, is also the source of the material used to fight measles. The material is a protein separated from blood plasma and known as gamma globulin. Because it contains the antibodies which destroy the germs of measles, it will, in most cases, prevent an exposed individual from developing the disease. Hence injections of gamma globulin will be given to soldiers exposed to measles.

The fundamental work on blood plasma was done by E. J. Cohn of the Harvard Medical School. He succeeded in separating blood plasma into its various components, one of which is the gamma globulin. Tests on over 1,000 individuals have indicated the effectiveness of the new material.

Amphetamine vs Seasickness

A study of 100 patients suffering from seasickness and treated with amphetamine sulfate (benzedrine sulfate) suggests to F. K. Albrecht (*Med. Clin. North America* 27:1652, 1943) that the drug, given in proper dosage and under careful supervision, is safe for the prevention of seasickness. It is suggested that this treatment might well be used by the armed forces to good advantage. The amount of amphetamine given varied from 15 to 30 mg. daily in divided doses. The drug was given from 5 to 10 minutes before the patient arose from his bunk. All cases were carefully controlled by placebos. In the majority of cases when the drug was replaced with the placebo most of the symptoms returned, and when the drug was given again all troublesome symptoms disappeared. The patients were able to resume activity, to enjoy walking about the deck and eating without any difficulty. A number of conditions were thought to be predisposing causes of seasickness, such as poor ventilation, constipation, migraine, vagotonia and psychic factors.



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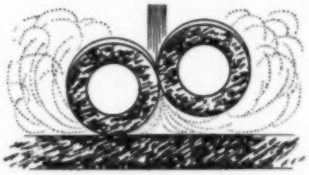

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Rose's Foundations Of Nutrition, 4th Ed., Revised by Grace MacLeod, Ph.D., and Clara Mae Taylor, Ph.D., Teachers College, Columbia University, 594 pp., Illus., The Macmillan Co., New York, $3.75.

This book is written for those who wish to live more intelligently. An effort has been made to present within a small space some of the fundamental principles of human nutrition in terms which call for no highly specialized training in those natural sciences upon which the science of nutrition rests. The selection of topics and the relative amount of space devoted to each are based on much experience in presenting the subject of nutrition to beginners whose object is to be well informed as to the significance of food in daily life so that they may order their own lives more successfully and may have a better understanding of the part which nutrition plays in health in the world at large. Each essential factor in an adequate diet is discussed in detail with many references to animal experiments which help to make clear the reasons why it must have a place in the daily program. The foods which serve best as sources of these essentials have been indicated, and a very practical method of comparing foods on the basis of how much of a given dietary essential can be obtained from each in relation to the total day's requirement.

The Vitamins, A General Survey for the Practising Pharmacist, Published by The Pharmaceutical Society of Great Britain, 64 pp., The Pharmaceutical Press, London, 2s 6d.

It was the object of the series of articles which forms the basis of this booklet (and which appeared in The Pharmaceutical Journal for August 27, September 3, 10, October 15, 29, 1938, and January 21, 1939) to present such a resume of the subject that will enable pharmacists to answer such questions as: the daily vitamin requirements for baby, a growing child, and an adult; he vitamin content of the common t articles of food; the signs of ill-health or other penalties that are likely to result from an insufficiency of any or all of the vitamins, and whether any ill-effects are likely to result from having too much.

War-Time Information For Pharmacists, Compiled by The Pharmaceutical Journal, 80 pp., Third Ed., The Pharmaceutical Press, London, 1s 6d.

This is a summary of Acts of Parliament, Defense Regulations and Statutory Rules and Orders issued from the beginning of the war up to March 31, 1944, which have a bearing on the practice of pharmacy. Also incorporated are references to other pharmaceutical matters on which questions are frequently asked.

The March of Medicine, 151 pp., Columbia University Press, New York, $2.

This is number VIII of The New York Academy of Medicine Lectures To The Laity. Contents: I. Crime and Punishment, by Bernard Glueck, M.D. II. The Scientific Method and Our Plans for Peace, by Sir Norman Angell. III. War and Medicine, by Edgar Erskine Hume, M.D. IV. Aggressiveness—Individual and Collective, by Franz Alexander, M.D. V. Let Babies Be Our Teachers, by Myrtle B. McGraw, Ph.D. VI. Nature and Man, The Linsley R. Williams Memorial Lecture, by Robert R. Williams.

Review of Pharmacy, by George W. Fiero, Phar. D., Ph.D., Associate Professor of Materia Medica University of Buffalo School of Pharmacy, Fifth Ed., 117 pp., John Wiley & Sons, New York, $2.50.

The object of this publication is to furnish the College of Pharmacy graduate with a complete condensed compend of the drugs, chemicals and preparations of the United States Pharmacopoeia, Twelfth Revision, and the National Formulary, Seventh Edition. The book will be found ideal for the student to review his college work prior to taking examinations or for the pharmacist who desires a "ready reference" of the official drugs and preparations.

The Analytical Chemistry Of Industrial Poisons, Hazards And Solvents, by Morris B. Jacobs, Ph.D., Senior Chemist, Department of Health, City of New York, 1928, Second Revised Reprint, 1944, 661 pp., Interscience Publishers, New York, $7.

Although the literature of industrial hygiene is large, there are few books dealing with the chemical aspects of the subject. Sources of information used in the compilation of this very complete volume include: The Publications of the United States Public Health Service; the United States Bureau of Mines; the United States Department of Labor; The American Journal of Public Health; the Yearbook of the American Public Health Association; the Journal of Industrial Hygiene and Toxicology; Industrial Medicine; Industrial and Engineering Chemistry Analytical Edition; and the British Analyst. Contents: I. Industrial Hygiene and Industrial Poisons. II. Sampling. III. Measurement of Gas Volume and Quantity. IV. Absorbers and Absorbents. V. The Chemical and Microscopic Estimation of Dust. VI. The Chemical and Microscopic Estimation of Silica. VII. The Dangerous Metals: Lead, Mercury and Arsenic. VIII. Other Harmful Metals. IX. The Common Poisonous Compounds of Sulfur, Phosphorus, and Nitrogen; Oxygen and Ozone. X. The Common Poisonous Compounds of the Halogens. XI. Carbon Monoxide, Carbon Dioxide, Hydrocyanic Acid and Cyanogen. XII. General Methods for the Determination of Combustible and Solvent Vapors. XIII. Paraffin and Unsaturated Aliphatic Hydrocarbons. XIV. Benzene and the Aromatic Hydrocarbons. XV. Halogenated Hydrocarbons. XVI. Alcohols, Glycols and Alcohol-Ethers, and Ethers. XVII. Acids, Esters, Aldehydes and Ketones. XVIII. Phenolic Compounds, Aniline and Derivatives. XIX. Chemical Warfare Agents.

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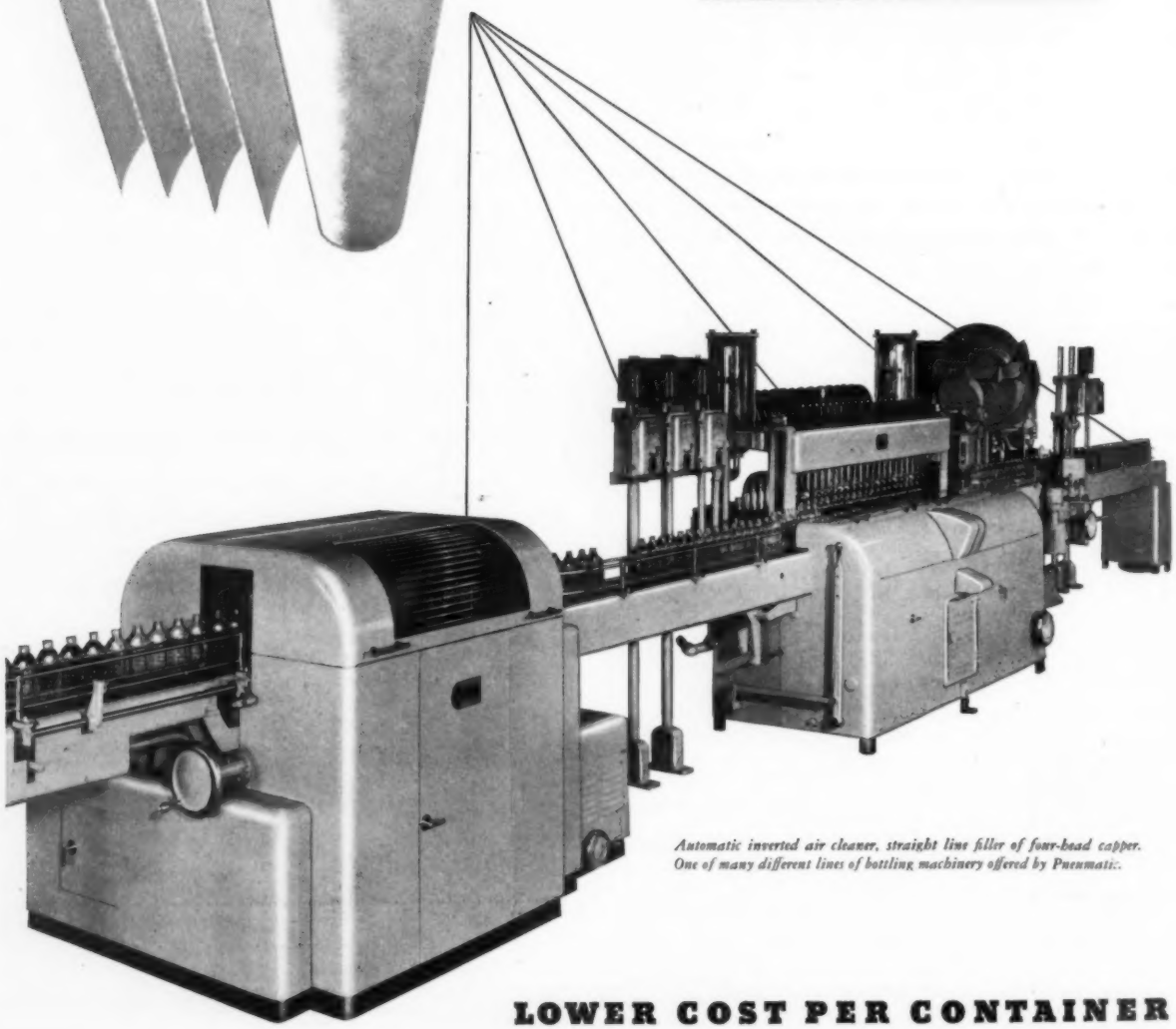

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Brazil Menthol Production Increased
United States War Demand Stimulates Expansion

All indications now point toward South America as a permanent source of supply for natural menthol. At present Brazil is the source from which the United States is most likely to secure at least the greater part of the menthol needed. Cultivation of the Japanese mint in Brazil began in the Japanese colony in the State of Sao Paulo and has been encouraged by the Brazilian Government. The stimulus for the tremendous recent expansion of the industry was provided by war demands for the product, particularly from the United States.

The year 1943 saw 61 distilleries registered by the Secretary of Agriculture in Sao Paulo, 90 per cent of the number being located in the municipality of Presidente Bernades in the Alta Sorocabana region. The oil produced yielded from 75 to 80 per cent menthol. Members of the mint-oil trade estimated the 1942-43 crop at 50 metric tons and the production of crystals at 20 metric tons, or between 40,000 and 50,000 pounds of U.S.P. menthol crystals.

Early in 1944, reports indicated that 15,000 acres had been planted in peppermint in the State of Sao Paulo. This was seven times greater than the acreage of the preceding year. However, planting of mint was delayed by prolonged dry weather. While planting would normally have been completed by the end of November, growers in the region of Presidente Prudente planted through the last week of January.

First cutting of the mint crop began about the middle of January and continued until early March. Normally this first cutting should have been made during November and December. The second cutting probably got under way in May.

Oil yield from the Brazilian first crop was low. In addition to the drought, there were other causes for the lower yield, among them the inexperience of the growers in extracting oil from the plants and the crude methods used for separating the oil from the water of distillation. The oil from Presidente Prudente tested 75 to 77 in specific gravity in contrast to 85 a year ago.

Early in the year, an area of from 160 to 300 acres in Northern Parana was reported to have been planted in mint. The yield here was expected to be slightly higher per acre than in Sao Paulo. Production of mint oil in this State is expected to be 50 metric tons in the 1943-44 season.

Latest reports indicate that the average Brazilian crop on the first cutting was 50 per cent less than was expected, but rainfall in February gave promise of a normal second crop.

In the meantime, the age-old economic law of supply and demand has operated to bring about unprecedented prices for the menthol which is available, reports being that Brazilian menthol has been sold outside of price schedules for whatever the traffic will bear. In fact, the menthol price situation became so serious that both the United States and the Brazilian Governments have recently taken steps to correct it.

An OPA import price regulation on natural menthol, effective April 17, 1944, stated that imports into continental United States shall not result in a cost in excess of $15 per pound, f.o.b., duty paid, any United States port of entry, with the exception of any purchase contracts for which an irrevocable letter of credit had been issued prior to April 17, 1944. Maximum prices per pound to be charged by importers to industrial users or to repackagers range from $16.50 to $16.90 in original containers of from 10 to 500 pounds or more. Repackagers' prices to wholesalers and industrial users are specified at from $20.82 per pound to $22.10 per pound if packaged in fractions thereof. Sales by wholesalers to industrial users and retail druggists range from $27.13 per pound to $1.80 per ounce for 1-pound lots and smaller.

At about the same time that the aforementioned OPA regulation was promulgated, there was issued by the Coordinator of Economic Mobilization, Sao Paulo, Brazil, a decree, effective from the date published, which was designed to stop the breaking of mint-oil contracts. The decree orders that the existing contracts of the farmers with manufacturers and exporters shall be adhered to, those breaking contracts being declared liable to special penalties.

These regulations, entered into cooperatively by two friendly Governments, should stabilize menthol prices—which in itself will do much to ease the menthol-supply situation.

JUNE PRICE CHANGES

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Lemongrass oil 25c
Orange oil cold pressed 25c
Distilled 25c
Papain pure powd. 20c
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Prickly ash bark 3c
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Wahoo bark root 15c

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Buckthorn bark 3c
Cade oil 15c
Chamomile flowers 5c
Elder flowers 1c
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Mercury metal $12
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• Prices quoted in this section were current on the first of this month.

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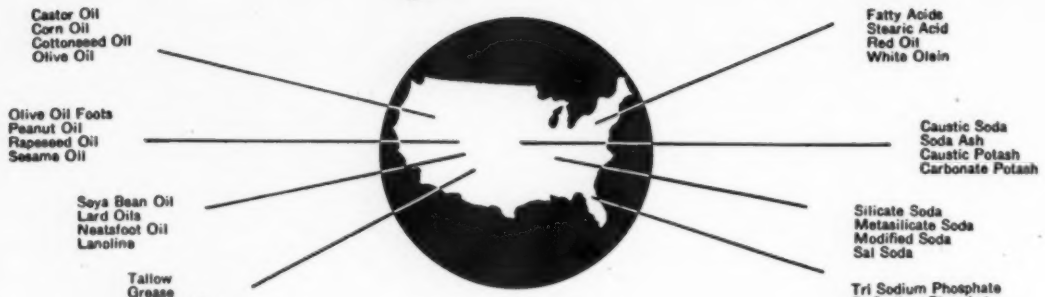

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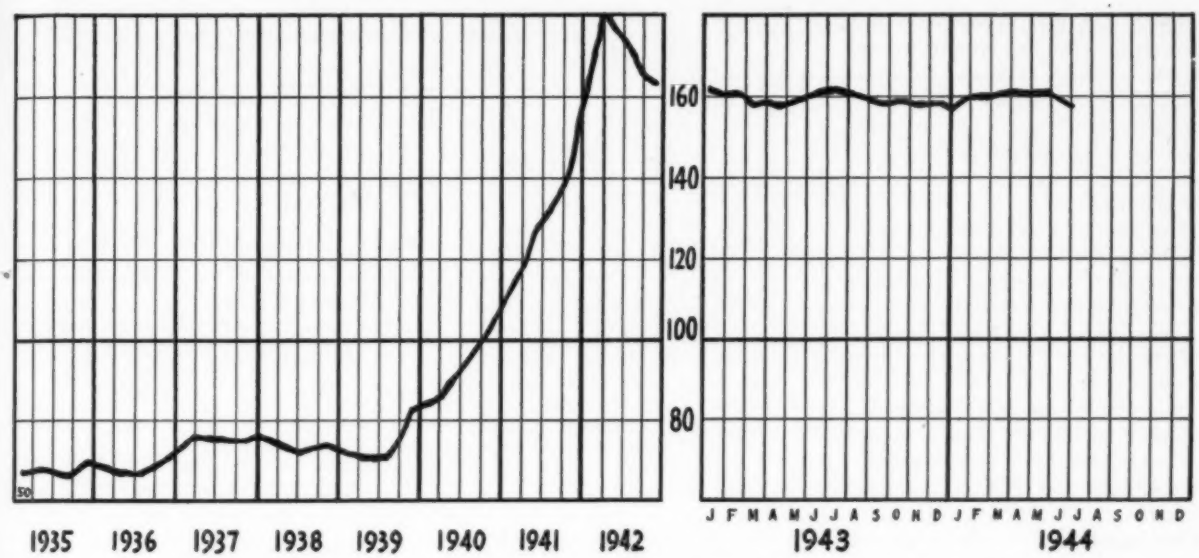


The price index of fifty commodities for May declined to 156.3 from the previous 160.8.

Spot Price of Mercury Reaches New Low Late Report Says Italian Mines In Allied Hands

The spot market for mercury was further unsettled during the past four weeks with the result that this commodity reached a new low level of from $98 to $100 a flask. The mercury trade here had anticipated that the market would stabilize at the $110 level, ending the long decline precipitated by the withdrawal of Government support for this commodity.

Mercury output in 1943 totaled 51,929 flasks of 76 pounds each which represented a new peak rate since 1882, according to the Bureau of Mines. This compared with an output of 50,846 flasks in 1942. In 1943 producing mines totaled 146, compared to 184 in 1942.

Mercury production was 3,700 flasks (76 pounds) during April, as compared to 3,800 in March, 3,800 in February, and 4,400 in January of this year. Average production in 1943 was 4,327 flasks monthly.

April consumption was 3,200 flasks, as compared with 3,600 in March, 3,700 in February and 3,400 in January, 1944. Average 1943 consumption was 4,542 flasks a month.

Mercury stocks, consumers and dealers, amounted to 9,700 flasks at the close of April, compared with 9,900 at the end of March, 9,400 in February and 11,300 at the close of January, 1944. Producers' stocks in April amounted to 5,604 flasks; March, 5,011; February, 5,150; and January 5,459.

The bureau states that during April the Klau mine in California closed and in May the Hermes in Idaho, second largest producer in 1943, ceased production. One or two other large properties anticipated closing if the price trend did not reverse itself.

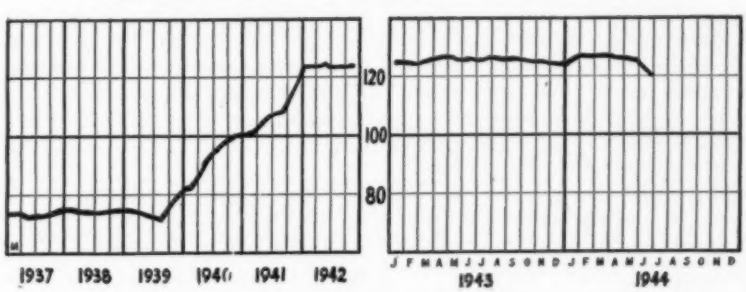
According to reports in the trade, approximately 80 to 90 per cent of the total number of mines that had been operating on the coast have been closed down over the past several months and in some quarters it is indicated not more than eighteen or twenty mines are now producing, out of a total of about 175 officially reported at the start of this year.

Statistically the raw material market is now in a much firmer position. The continued price declines, however, have rendered the derived mercurials less secure and a further change in the schedule of prices on such products may develop almost any time.

Ipecac exports down

Exports from Nicaragua of ipecac have fallen off considerably during the past year. Peak shipments were reached in the 3 year period 1936-38, when average annual exports mounted to 116,000 pounds. Since 1937 the United States has supplanted Germany as the chief buyer. Annual post-war exports are expected to be about 75,000 pounds.

15 Medicinal Chemicals—Weighted Price Index 1926=100.



The medicinal chemicals index declined to 121.4 from the previous 127.1. This was occasioned mainly by the sharp drop in mercury.

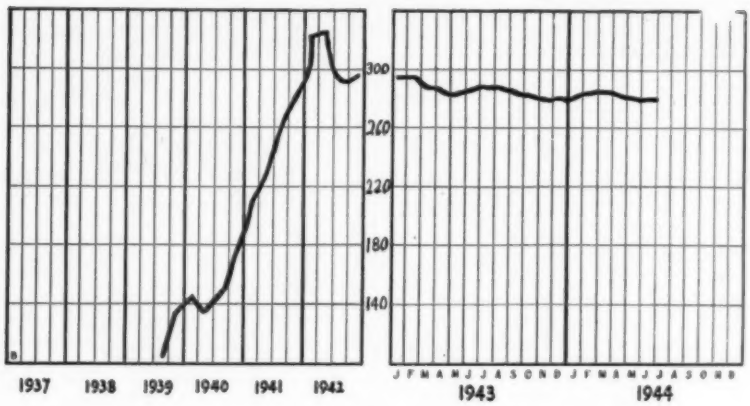
FINE CHEMICALS

Supply scarcities appear more pronounced in certain sections of the fine chemicals market. For example, warm weather requirements are making themselves felt in citric acid and industrial buyers are also withdrawing tartar products in a larger way. Citric allocations are none too liberal.

Tartaric acid is becoming more difficult to locate in desired quantities and supplies are anything but plentiful in such essentials as tartar emetic and rochelle salt. The raw material tartar is a factor probably standing in the way of larger production.

Pricewise the market was featured by a further and sharp decline in the quotations on mercury and the lowering of quotations on penicillin.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index remained without change at 277.4.

Vitamin situation

With riboflavin, vitamin B_2, being removed from allocations, there has been considerable speculation in the trade concerning future developments with regard to restrictions on the other vitamins. In answer to the many reports circulated about the market, it is recalled that, according to a recent statement made by a Government official, vitamin C is more plentiful than last year, but is not adequate for all needs.

Nicotinic acid has been very critical and nicotinamide has been in short supply. Unless some unexpected increases in production are noted, the situation with regard to vitamin A is likely to grow tighter. Vitamin B_1 will probably not be taken off allocation for some time to come. Niacin seems to have improved since early May. The amide situation is worse.

Alcohol tight

The alcohol situation continues to tighten despite the expansion in production. Our alcohol production set a record during the first four months of 1944 at 192,200,000 gallons, against 137,400,000 during the same period of 1943. If this rate is maintained alcohol production for the full year would amount to 576,600,000 proof gallons. Since this would be far short of the estimated 636,000,000 gallons required for all purposes this year, more liberal interpretation of allocations by WPB is not expected in the near future.

Bigger olive crop

Spanish olive oil production is estimated at up to 400,000 metric tons, or at least 50,000 tons more than the pre-Civil-War average and approximately 80 per cent more than the 1942 yield. High-potency cod liver oil is quoted here at $3.30 to $3.50 per gallon, equivalent to about $90 to $100 on a barrel basis. USP oil characterized by normal vitamin potencies is quoted, in 30 gallon quantities, at $2.40 to $2.50 per gallon, equal to about $75 a barrel.

Glycerin supplies ample.

Although there are ample supplies of glycerin for current needs, England and the United States are about the only countries that have any sizable quantities. There may not, however, be enough to satisfy post-war requirements, particularly in view of the possibility that Russia will require huge quantities.

Methanol production data

Methanol production and stock data was released by the Bureau of the Census, and revealed a total production of 1,082,536 gallons of natural methanol, and 17,696,000 gallons of synthetic methanol since January 1. The output of synthetic has increased each month this year, but that of natural has fluctuated.

ESSENTIAL OILS

Of outstanding interest in the essential oil market was the definite announcement of the arrival in this country of 100,000 pounds of Italian lemon oil. The crop prospects for both peppermint and spearmint oil also held attention. Prospects now favor increased production of these oils in 1944. Acreage under cultivation this year runs ahead of that in 1943. In peppermint plantings, the 1944 acreage exceeds the 10 year average of plantings —1933-1942—by 4,090 acres. That of spearmint exceeds it by 3,370 acres. Indicated yield of peppermint is 302,358 pounds more than the 1943 output. In spearmint it is 17,470 pounds ahead of 1943.

Italian Lemon here

About 100,000 pounds of Italian lemon oil has arrived here and is now stored in a Brooklyn warehouse. Indications are that this oil will be sold only to manufacturers who hold contracts with the government for products involving the use of lemon oil in their manufacture, and that not one pound will go for general civilian use. Maximum prices of $2.925 a pound for sales of imported lemon oil by Government agencies to dealers and $3.25 a pound for dealers' sales to industrial users and drug wholesalers have been announced in amendment No. 3 to Maximum Price Regulation No. 472 by the OPA. They became effective June 15.

Citronella exports up

Exports of Ceylon citronella oil were considerably larger during the first quarter of 1944 than during the corresponding period of 1943. Total annual production is estimated at between 11,000 and 13,000 hundredweight and it is not generally believed that labor shortages will curtail output

seriously. Production of cinnamon-leaf oil in Ceylon, however, is not expected to amount to more than 25 per cent of the pre-war level.

Orange oil up

The largest single production unit of California orange oil raised its prices on both cold pressed and distilled oil. The advance reflected a lower yield from the more inferior fruit that is now made available for processing; almost any kind of fruit finds buyers in the fresh fruit market now. Cold pressed oil in 25 lb. cans is now $1.75 per lb.; distilled $1.

New sources

Production of eucalyptus citriodora is becoming increasingly available in Brazil. Production of eucalyptus globulus is starting and shipments within a year are expected. Vetiver, geranium and patchouli plantations have been started and production of vetiver is likely to be substantial. Sassafras oil is already produced in large quantities in Santa Catarina State.

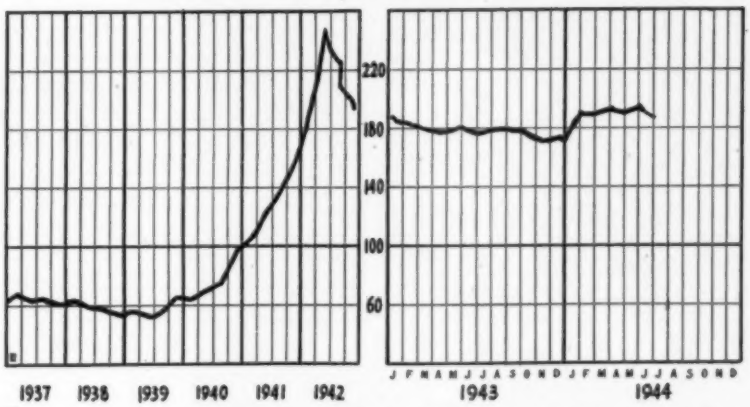
Small quantities of eucalyptus globulus are also being produced in the vicinity of Bogota, Colombia, and great possibilities for producing spice oils exist in Honduras, already producing quantities of lemongrass and citronella, and is cultivating peppermint and coriander plants.

Petitgrain from South America remains scarce and is constantly climbing higher. Geranium from the U.S.S.R. has been available from time to time in small quantities. Rosemary oil is being distilled in Spain. Prices continue to be controlled by the government, but offers are coming freely. A further reduction on price is noted in cade oil, market now from $1 to $1.03 per pound.

BOTANICALS

Activity in the botanical drug market during the month past was characteristic of the season. Spot stocks are at low ebb but demand has not placed any additional burden on suppliers. Dealers continued to exert pressure on primary sources in an endeavor to increase collections. High prices are being offered and this has stimulated collection to some extent and on some items. However, the overall prospects are not encouraging. It is considered likely that suppliers of botanical drugs may endeavor to keep inventories as low as possible so as not to get caught when the war ends. Consumers should consider this possibility when estimating their requirements for the consuming season ahead.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index declined to 173.9 from the previous 187.7. Italian lemon oil was priced at $3.25 a sharp drop from the nominal quotations prevailing at the higher index value.

Vanilla Expected

Approximately 100 tons of Bourbon vanilla beans, representing a total investment of nearly a million and a half dollars, may appear in the market in the near future. It is understood that about 60 per cent of the beans has already been purchased by flavoring extract manufacturers. The trade holds out little hope of obtaining further replacements of Bourbon beans over the balance of this year.

This shipment of beans left Madagascar aboard a French cattle boat for delivery in Durban from whence they are now enroute to the United States.

Producers in Mexico, who are fully posted concerning the many delays in getting Bourbon beans, have been taking advantage of the situation by holding for better prices.

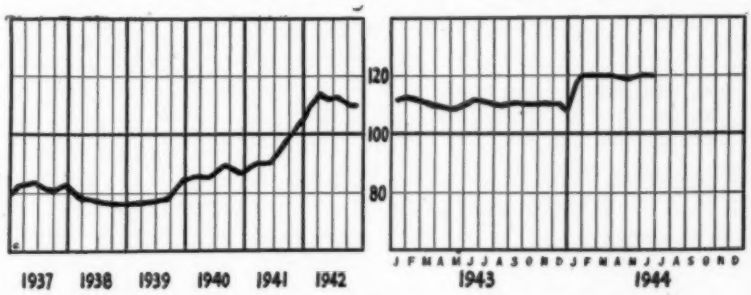
In the local market, spot prices on Mexican beans are somewhat lower, but local houses explain that if they were to pay current prices quoted at the primary center they would have to ask at least $9 to $10 per pound for whole beans.

The output of cured vanilla beans from the 1943 Mexican crop is unofficially estimated at between 300,000 and 350,000 pounds. This is an increase of approximately 50 per cent over the preceding season.

The 1943 vanilla crop is now moving into export channels, and the quality of the cured beans is stated to be average or above. Inasmuch as exports continue at a fairly even rate until August or September, it will be 3 months or more before official statistics on the crop are released. Since practically all the vanilla produced in Mexico is exported, export figures might also be termed production figures.

It is reported that increased production in 1943 is the result of additional plantings since 1939. Allowing 4 years to the time of flowering, many new plants are now coming into production.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index remained without change at 113.5.

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A.Ph.M.A. Meeting

(*Continued from page 36*)

a high rate of employment is about 125 billion dollars a year—a figure which was never reached until the present emergency. If this figure is not reached, government financed public works, unemployment doles, subsidies, and other methods must be used to make up the difference, thus imperiling the principle of free enterprise. Dr. Bigelow spoke of the Latin-American market as one that can be developed and thus increase our income for at least a ten year period. His remarks were stimulating to thought on the other important factors in improving income, such as, products, production, promotion and sales, organization, and public relations including local community effort, national effort, and international effort.

Officers elected for the coming year are: President, Gerald F. Rorer, of William H. Rorer, Inc.; first vice-president, F. O. Burns, of First Texas Chemical Manufacturing Co.; second vice-president, J. G. Van Nortwick, of J. L. Hopkins & Co.; secretary, Edgar L. Patch, of The E. L. Patch Co.; treasurer, F. W. Misch, of The Smith-Dorsey Co.; directors: J. L. Russell, of C. E. Jamieson Co.; Ronald Helps, of Schieffelin & Co.; and E. G. Strasenburgh, of R. J. Strasenburgh Co.

When Doctors Make Mistakes

(*Continued from page 35*)

covered up so skillfully that even the Food and Drug Administration could not uncover them.

But bear in mind that had the first such accident been reported to the Food and Drug Administration or to the manufacturer, steps could have been taken immediately to change the warnings on the packages so that "he that runs may read." The manufacturer thought that the labeling contained sufficient warnings and so did the Food and Drug Administration. But because the doctors had to cover up the first accident on the part of themselves or the nurses and pharmacists, some eleven or fourteen other deaths had to occur before the matter came to the attention of those who could at least try to take steps to prevent such accidents in the future. The reason why the particular accident in Detroit came to light at all and was not covered up in the manner in which the others were is not clear, but apparently someone had a sense of duty and probably was convinced that the blame could be shifted to the manufacturer without difficulty.

Even in the case of Winthrop Chemical Company in which pyrogens or particles of mold were charged to have been found in sterile water ampoules, and in sterile dextrose or sugar solutions, an attempt was made to place the blame for a death upon one of these products. However, this failed completely since the death was clearly shown to be due from apoplexy—in no way related to the dextrose solution contaminated with mold which he received.

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Drug and pharmaceutical manufacturers have learned from experience that when an error occurs in any of their products, the best thing to do as soon as they learn of it is to give it wide publicity so that damage resulting from the use of the particular product will be minimized. An outstanding example of this way of thinking is evidenced by the Castoria incident, the product being completely removed from the market for a full year after constant radio warnings and large newspaper advertisement warning people not to use the Castoria they had on hand.

When doctors make mistakes they would be wise if they would immediately admit that a mistake had been made and try to call upon others to aid in the preventing repetition of such mistakes on their own part or on the part of others. Manufacturers are only too willing to aid in such instances, but they cannot very well help when the mistakes are completely covered up in some instances without the knowledge of the manufacturers, while in other instances immediate steps are taken by the doctors to place the blame solely upon the shoulders of the manufacturers.

Men's Hair Grooms

(*Continued from page 37*)

The attempt in this article is to spot some trends in this connection. Due to the multitude of items which serve the same purpose it is well-nigh impossible to cover everything. And due to the variety of personal preferences as well as the novelty of some of the products it is difficult fairly to evaluate the merits of one type against other types without the benefit of a mass survey. Therefore these remarks should be considered as merely descriptive rather than critical or advisory. If the accent is on the newer and more unusual preparations it is because they are probably of greater interest to the reader who may want to investigate those modern approaches himself.

Most of the old-time hair tonics were, and are, two-layer affairs, consisting of an alcohol-water phase and an oil phase. The consumer has to shake the bottle, thereby producing a very unstable emulsion of the two phases.

In contrast to this something new in emulsion technique has made its appearance. We have now at least one leading hair lotion which is a liquid water-in-oil emulsion. It is done with lanolin, cholesterol and oxycholesterol. The difficulty in applying cholesterol on the hair has been its insolubility in alcohol and water. The emulsion idea neatly bypasses this obstacle.

The emulsion product mentioned above is conspicuously labeled "non-alcoholic." So is another product which is a clear solution. This uses a sorbitol derivative and a castor oil derivative and has a mildly tacky effect without greasy feel.

A similar effect can also be obtained with an alcoholic lotion, which is clear and has all active ingredients in solution. Many men like the stimulation resulting from a high grade alcoholic lotion and don't seem to be bothered by the alleged drying action of the

alcohol. If the other ingredients tend to counteract such drying, why not make a fast-evaporating, refreshing, tingling lotion with 70 per cent to 80 per cent alcohol? (A post-war product, it is understood!) Here is an outline for possible formulation:

(a)	**Alcohol**	720
(b)	**Isopropyl ester from Spermaceti**	20
(c)	**Perfume Oil**	5
(d)	**Alcohol Extender (Polyalcohol derivative)**	40
(e)	**Water**	210
(f)	**Sorbitol**	5
		1000

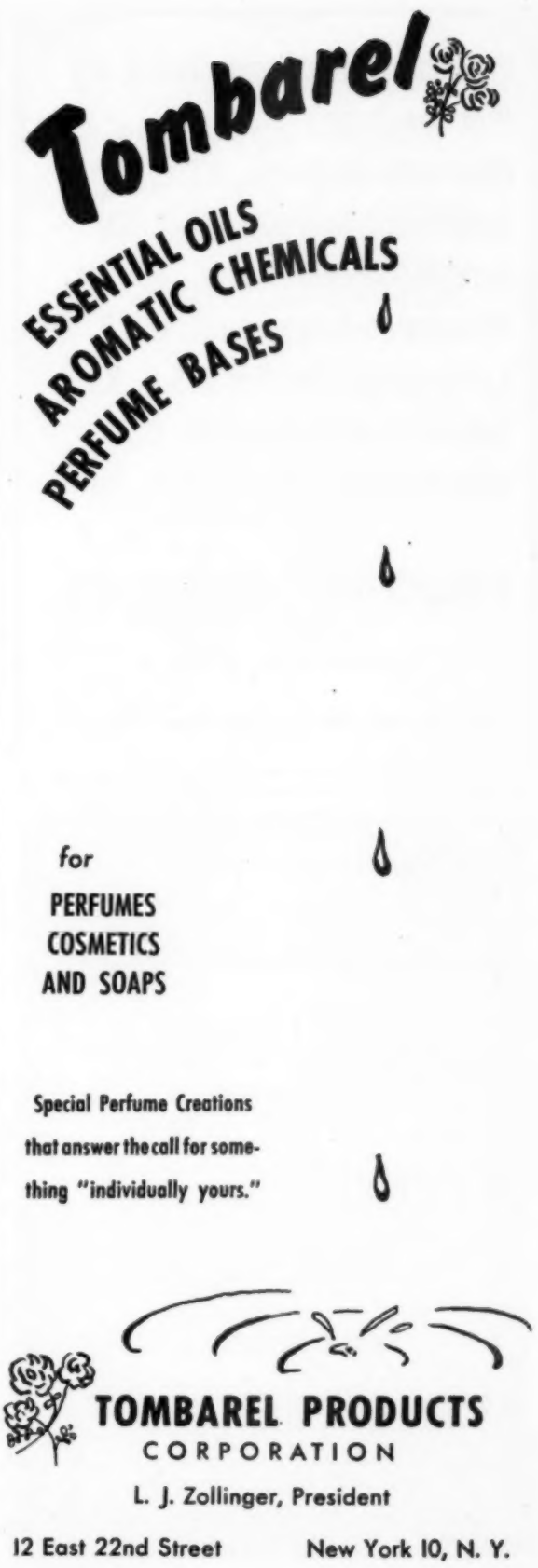
Procedure: Dissolve (b) + (c) + (d) in (a). Dissolve (f) in (e). Incorporate the aqueous solution into the alcoholic solution. Add color if desired. Filter.

A few remarks regarding the ingredients seem to be in order. The isopropylester derived from spermaceti is an oil of greaseless feel, which sort of slips into the hair. While this doesn't sound very scientific it expresses best the sensation left by the product. There are several alcohol extenders which fit the subtitle in the formula. They all are somewhat tacky and oily, but feel neither gooey nor greasy. Therefore they have the double function of keeping the solution clear and representing an active ingredient for setting the hair and keeping it in place. The ratio to be used in the formula depends, of course, first on the percentage of alcohol selected, but also on the kind of perfume oil, under otherwise equal conditions. Sorbitol increases the tackiness and can be reduced or left out if less "setting" effect is desired.

Once more we return to emulsified hair lotions. In addition to the water-in-oil product mentioned before, there are those which appear to be formulated along the lines of hand lotion with a liberal excess of mineral oil. We have no quarrel with this idea but fail to see what kind of advantage this type would have over plain liquid brilliantine. These latter, incidentally, sell in considerable volume, but it is felt that they present no compounding problems.

From the olfactory evidence presented by a number of products it appears that opinions of manufacturers as to how the well groomed male of the species homo sapiens should smell (if at all) are widely divergent. There is, of course, the traditional and conservative lavender. And there are the unobtrusive and uninspired citrus eau de cologne types. But then, surprisingly, one of the special men's lines has a hairdressing which smells exactly like a florist's shop: roses and lily of the valley and a few gardenias. Very nice—but masculine? Others have a faint rose perfume, the green character of phenyl ethyl alcohol rather than the sweet geraniol note, an odor which is pleasant to almost every nose. Then you find the rather fashionable so-called heather odor, and a perfume a bit difficult to describe which reminds simultaneously a little of lavender, spice and pine: altogether rather brisk and refreshing, clearly masculine and not sissy at all.

It is truly a wide range of odors, not to speak of such "fragrances" as bay rum, tar, antiseptics and the like,



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which probably do not classify as perfumes. Whatever the perfume choice may be, decision should be carefully arrived at. Men are getting more perfume conscious all the time, even if many of them are still slightly confused as to their preferences.

Insect Repellents

(Continued from page 42)

that to which cosmetic manufacturers are accustomed and it is the purpose of this article to show how this may be done and what the manufacturer must guard against.

As mentioned above these preparations may be made up in a variety of different forms. The simplest presentation would be in an alcoholic solution as a clear lotion. However, it is also possible to prepare them as part of an emulsion either in liquid or in cream form. It is well to remember also that a product of this type would be as much in demand by men as by women and in a tube would, therefore, be attractive to men who desire to use it on fishing or hunting trips where there is a danger of breakage to bottles or jars. Offhand it appears entirely possible that the insectifugal properties of the product may be combined with a sunscreen and so have the one product take care of the two chief disadvantages of the beach and of the field and stream—insects and sunburn.

The period of time over which an application is effective would vary with the substance used and also with the vehicle in which it is incorporated. It would appear that an alcoholic solution of an insectifuge would have a higher vaporization rate than if the substance were incorporated in an emulsion or in a nonvolatile oil. Applications of such preparation would, therefore, have to be more frequent. On the other hand too slow a vaporization rate may possibly obviate the insectifugal properties of the material. These are details which would have to be studied. In addition it is well to remember that most of these substances are esters which may possibly hydrolyze on long standing in an aqueous vehicle such as an emulsion and, therefore, cause the activating agent to be destroyed. Studies of the hydrolysis of these substances would show which would stand up best under the conditions to which they are to be subjected. This would be in addition to tests ordinarily made on items such as creams for stability to heat and to sudden changes in temperature.

Because these materials are new we do not know how the men's skin will react to their normal use. With the emphasis placed by the T.G.A. and by members of the U. S. Public Health Service on the possibilities of sensitivity in new substances, it might be well to run tests along these lines. Since the greater the quantity (percentage) of the active material used the longer the protection would last, I believe that if tests were carried out on the active ingredient before its incorporation into a final product, the results would indicate its suitability.

As far as present-day production of these materials is

concerned, it is doubtful whether it would be possible to manufacture any insect repelling product. Large quantities of the activating substances are being used by our Armed Forces and up to the present there does not appear to be much opportunity of any sizable quantity of the insectifuges being made available for civilian use. However, with our eyes on new ideas for post-war operation there is a splendid opportunity to develop a new item which would have a permanent place in a cosmetic line. I know also that spending much time on post-war developments at this time is not easily done because of the constant replacements we are called upon to make in order to keep going with what we have. However, if it can be done and the experimental work is carried out during this period, a good product so developed would have a most receptive market at the war's conclusion.

Chlorophyll

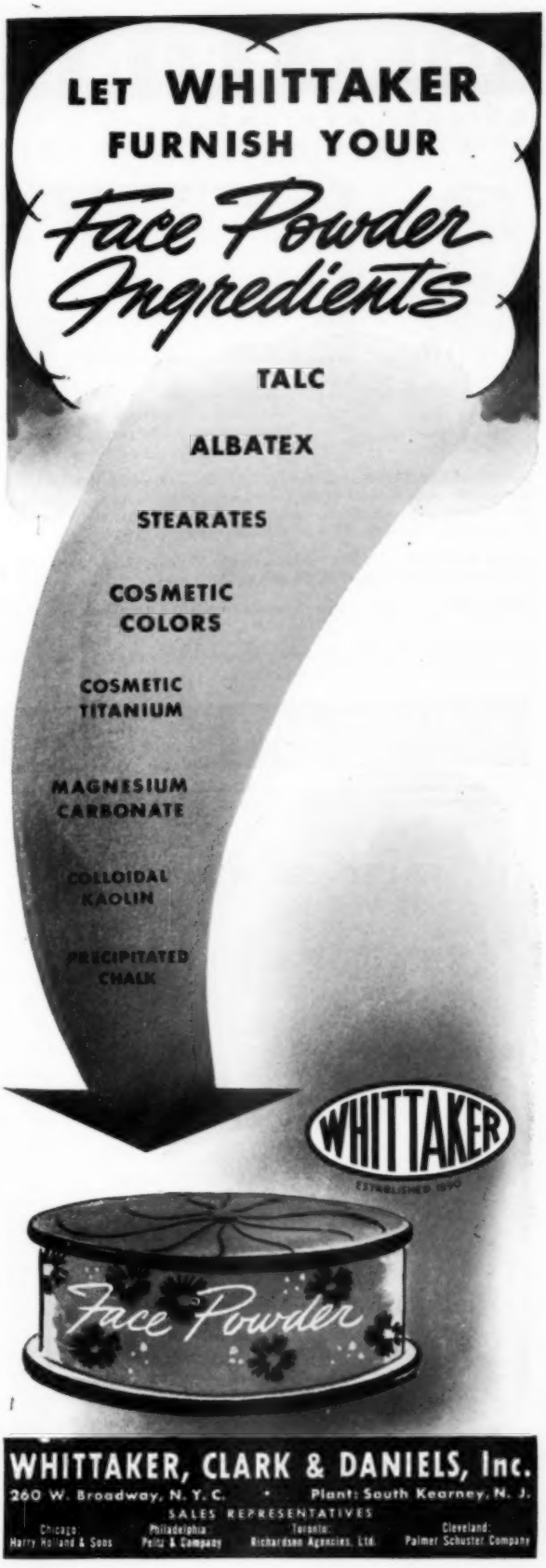
(Continued from page 39)

the chief factor in its ability to control infection. Other investigations, also aided by A.M.A. grants, seem to bear this out. Thus, Smith and Sano[29] found that water-soluble chlorophyll derivatives in concentrations of 0.05 to 0.5 per cent when added to tissue cultures of embryonic fibroblasts, causes an almost immediate growth response with elimination of the usual six-to-eighteen-hour lag period. Moreover, this growth stimulating effect could be maintained by replenishing with chlorophyll every two days.

More extensive and severe, but also more indicative were the investigations of Smith and Livingston[30] on experimental wounds and burns in animals. To obtain statistically significant findings, they studied the effect upon the healing of 1,372 experimentally induced wounds and burns by the topical application of seventeen medicinal preparations in current use. Of these agents tested, five were water-soluble chlorophyll derivatives in different vehicles. To further strengthen their findings, a control series of 872 similar lesions was also studied.

It was found that of all the agents tested, only the chlorophyll preparations consistently showed any statistically significant effect in accelerating the healing of wounds and burns. Wounds thus treated healed 24.9 per cent faster, on an average, than those treated with other preparations. The rate of healing was appreciably hastened in 67.9 per cent of the animals on which the various chlorophyll preparations were used. This percentage, it was noted, was approximately twice that obtained with any of the other preparations studied and five times as great as that obtained with various sulfa compounds.

Chlorophyll also has the outstanding advantage of being non-toxic. Laboratory experiments[5] in which the water-soluble derivatives were given by various routes have confirmed clinical observation of this fact.[31] However, a rare instance of sensitivity to chlorophyll has been noted on one occasion.[32]



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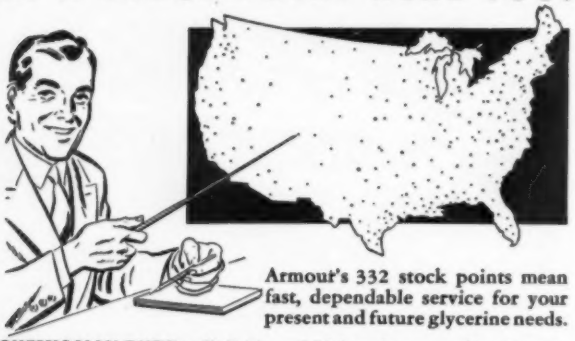

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It is probably no exaggeration to say that Gruskin's[31] paper, published in 1940, was the greatest stimulant to interest in chlorophyll and its derivatives for the treatment of acute and suppurative diseases. In this report, Gruskin reviewed the results obtained, in collaboration with many leading physicians, in the chlorophyll treatment of some 1,200 cases of widely diverse character. In commenting on this work some two years later, Bowers[33] aptly summarized this paper when he observed that, "Chlorophyll cleans up the wound and stimulates granulation tissue. It has had extensive clinical trial in such cases as wound infections, empyema, fistulae, deep abscesses, acute infections of the nose, throat and ear, male and female urinary tract infections."

Use in Skin Conditions

Gruskin, in collaboration with Wright of Temple University School of Medicine, had also reported that chlorophyll in ointment form had been employed in the treatment of various skin conditions; very good results having been obtained in cases of impetigo contagioso. Others have since reported favorable results with similar preparations. For the treatment of post-irradiation erythema, for example, Holmes and Mueller[34] employed an ointment consisting of:

Chlorophyll (oil-soluble)	**3.0 Gm.**
Nupercaine, base	**1.0 Gm.**
Petrolatum	**30.0 Gm.**
Lanolin, to make	**100.0 Gm.**

With such a preparation used on 80 patients, the length of the irradiation reaction was shortened and healing accelerated. Infection was avoided and granulation and epithelization were rapid.

Very pertinent in this connection is the finding of European observers that chlorophyll derivatives make good light filters to protect the skin against strong radiation.[35] This fact forms the basis for the use of such products as screening compounds to filter out ultraviolet rays and form protective compounds for the skin against sun's rays.[36]

An ointment containing water-soluble chlorophyllins has been tried by Wallace and his associates[37] for the treatment of dermatophytosis of the feet (e.g. athlete's foot) and similar skin lesions. They reported that, while the ointment had proved valuable for relieving the itching characteristic of these fungous infections, it did not appear to provide a permanent cure for the lesions.

For Varicose Ulcers

Gruskin[31] found that chlorophyll in ointment form was "particularly helpful in chronic ulcers, especially those of the indolent, varicose type." This has since been verified by other workers. Gahan, Kline and Finkle,[32] for example, employed chlorophyll in two forms, as an ointment and as an aqueous solution, in the treatment of ulcers of various origin. The ointment consisted of water-soluble derivatives of chlorophyll in hydrous lanolin in the proportion of 1 to 28. The solution was prepared by dissolving 2 Gm. of a water-

soluble derivative in a liter of isotonic saline solution. Treatment of 25 patients with ulcers by means of these preparations yielded favorable responses in 19 cases. The chlorophyll appeared to have a stimulating effect on the supportive tissues and in some cases there was rapid production of granulation tissue.

Treatment of Burns

The value of chlorophyll in treating wounds and burns, so clearly verified in controlled laboratory studies,[29,30] has been amply verified in clinical practice.[31,33] In Europe, the Swiss worker, Buergi[38,39,40] has been one of the chief advocates of chlorophyll therapy. Working with various pure extracts and derivatives, he has demonstrated on both animals and humans that such products are highly efficacious in treating torpid wounds, burns, bedsores, leg ulcers and even corneal ulcers. Boehringer,[41] another Swiss, makes it a practice to compare all new preparations under controlled clinical conditions. Thus of 8 cases in which chlorophyll ointment was used. 7 showed better granulation than that obtained with any other ointment. He found chlorophyll ointments to be particularly valuable in torpid wounds and in wounds with extensive and deep tissue defects.

In America, Gruskin's[31] extensive work has been the chief factor in arousing interest in the potentialities of chlorophyll in wound treatments. From the results obtained in a wide variety of conditions it was evident that the use of chlorophyll in acute or suppurative processes resulted in definite improvement. Chlorophyll was also found useful in the fields of proctology and gynecology. In such conditions the oil-soluble derivatives were used as suppositories. They proved efficient in treating chronic rectal lesions and in cases of cervicitis associated with severe leukorrhea.

In patients with ulcerative cancers, it was noted that the foul odor caused by putrefaction cleared quite promptly after chlorophyll application. In France some years ago, Dupont and Duhamel[42] claimed to have obtained arrest of tumor growths and even decrease in their size in some cases by injections of a "sodium chlorophyllate." They noted that such injections permitted more intense radiation therapy for cancer than was otherwise permissible.

For Head Colds

The field of otolargyngology likewise appears to be a promising indication for chlorophyll products. In patients with acute rhinitis (head colds) and rhinosinusitis, packing the nasal chambers with packs saturated with a chlorophyll solution not only proved less irritating than colloidal silver salts, but tremendously increased drainage. Use of chlorophyll solution followed by aspiration was efficient in treating chronic sinusitis.[31]

Gruskin[31] had noted that chlorophyll preparations helped to successfully control such mouth infections as Vincent's angina and advanced pyorrhea. Following this lead, Goldberg[43] tested water-soluble chlorophyll derivatives, in solution and ointment form, on a series

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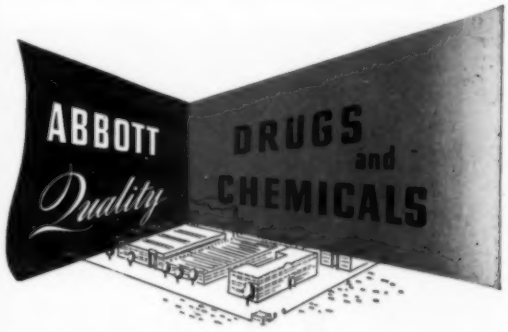

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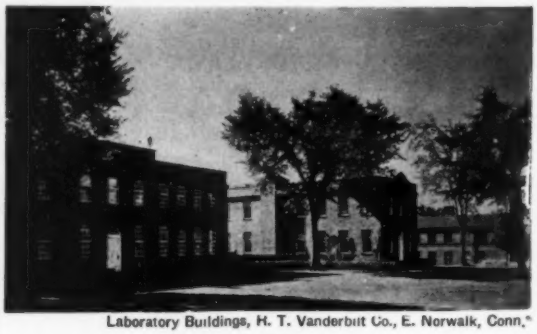

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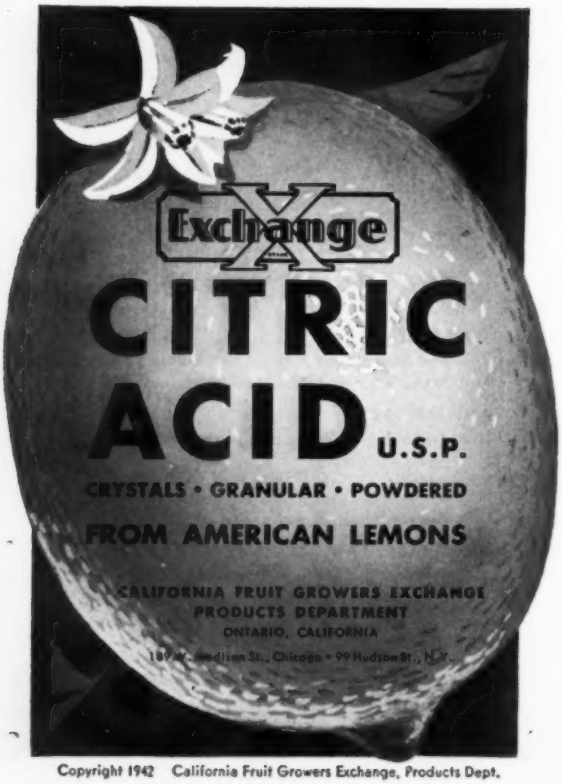

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of 300 cases of oral disease. On the basis of his findings he came to the conclusion that chlorophyll is "almost a specific" against the organisms responsible for Vincent's stomatitis (trench mouth) because it regularly brought about complete recovery and much more promptly than with other agents. In pyorrhea, the use of these products resulted in tightening of the teeth, cessation of bleeding from the gums and new tissue growth. Odors due to anaerobic infections rapidly and invariably disappeared with a few applications of chlorophyll.

Of interest in this connection is the recent announcement that a new chewing gum, with chlorophyll as the chief ingredient, has been placed on the market. According to the report,[44] the gum is indicated to alleviate sore throat, mouth cankers, trench mouth, bleeding gums and pyorrhea.

Before concluding, mention should be made of a new air deodorizing preparation that has attracted considerable attention. Presumably based upon the presence of chlorophyll, the product is claimed to be very efficient in clearing the air of unpleasant odors. A check of the patient[45] shows that the deodorizer consists essentially of chlorophyll or a mixture of chlorophyll and formaldehyde. The latter has long been employed in items of this type, but the action of chlorophyll is not quite clear.

All-in-all, it would appear from work already done and investigations still under way that chlorophyll and its derivatives hold considerable promise of being valuable contributions to the medical armamentarium.

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Menadione

(Continued from page 45)

4-naphthoquinone is almost completely wiped out by replacing the methyl group by ethyl or propyl, or by introducing a methyl group at any of the four positions in the benzenoid ring.[16] The greater activity of synthetic vitamin K, as compared to vitamin K_1, is probably accounted for by the smaller molecular weight of the former, the phytyl group in K_1 being only "ballast" which does not contribute to the activity.

Menadione occurs as a bright lemon-yellow, crystalline powder with a faint, somewhat musty odor. It is moderately soluble in chloroform and in carbon tetrachloride, soluble in vegetable oils, acetone, benzene (1 Gm. in 10 cc. at 25°C.) and ether, slightly soluble in petroleum-ether and ethyl alcohol (1 Gm. in 60 cc. at 25°C.), sparingly soluble in methanol and only very slightly soluble in water.

The U.S.P. XII[15] includes the following statement in the monograph for Menadione: "Caution—Menadione powder is irritating to the respiratory tract and to the skin, and an alcoholic solution has vessicant properties."

Menadione, especially when in solution, is sensitive to light and should be stored in "well-closed, light resistant containers."[15]

Clinical; Chemotherapy

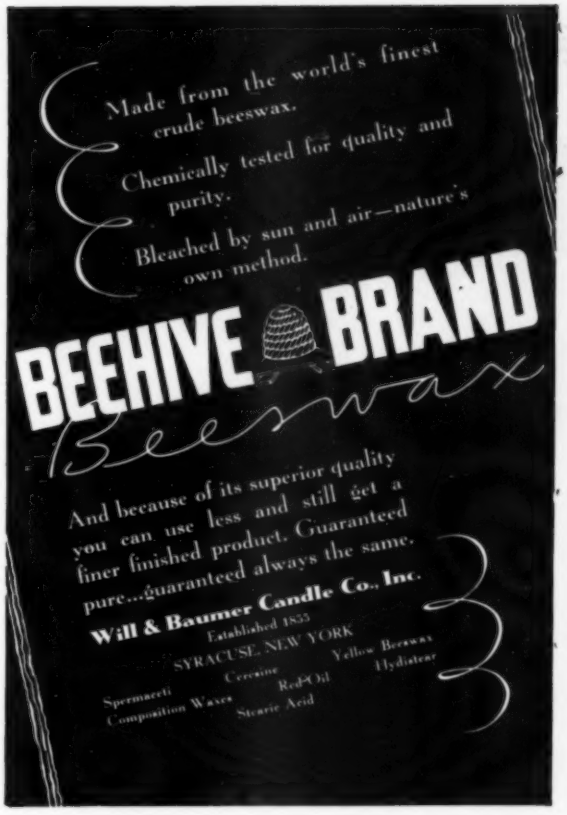
Menadione has the physiologic properties of natural vitamin K. Vitamin K belongs to the group of fat-soluble vitamins (A, D, E and K). Some of the fat-soluble vitamins, including vitamin K, are not absorbed in the body when the flow of bile is obstructed, and synthesis of prothrombin by the liver does not occur unless vitamin K is available. Therefore, prothrombin deficiency in the blood of man may result from interference with the absorption of vitamin K. The importance of vitamin K in the establishment and maintenance of adequate prothrombin levels in the blood has been verified.[17, 18]

Studies in recent years have aroused a great deal of interest in the relationship of vitamin K to various hemorrhagic tendencies in the human being. Certain of the hemorrhagic diseases arise chiefly from prothrombin deficiency and these, therefore, may be prevented or treated with substances possessing vitamin K activity.

Obstructive Jaundice — In the adult, these studies have been largely concerned with bleeding states in obstructive jaundice,[6, 19, 20] in which vitamin K has proved to have an extraordinary protective effect against hemorrhage diathesis.

Neonatal Hemorrhage — In the newborn infant, they have been concerned particularly with neonatal hemorrhage, which is now known to be a type of vitamin K deficiency caused by a hypoprothrombinemia which occurs during the first few days of life.

The physiologic hypoprothrombinemia of the newborn may be prevented by giving vitamin K orally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soon after birth.[21, 22, 23, 24, 25, 26, 27] In this condition, the vitamin and its analogues seem to be specific. The prothrombin level of the newborn may also be increased by giving vitamin K to the mother prior to delivery.[28, 29, 30, 31] There may be disadvantages[32] to both of these methods of administration, such as intolerance to the vitamin or its analogue when given orally or when the onset of labor before the calculated date prevents the timely prepartal administration of vitamin K. Therefore, where necessary, parenteral administration may be employed, either to the woman during labor or to the newborn infant, to ensure that the newborn infant will have a normal amount of prothrombin in the circulating blood.

Hepatic Disease—It is reported that vitamin K seems to have a specific effect on prothrombin deficiency occurring under certain sets of circumstances. For instance, the hemorrhagic state associated with primary hepatic disease is controlled in part, but not entirely, by vitamin K and by the naphthoquinones with analogous activity. The difficulty seems to lie in the fact that the liver cannot utilize the material in the formation of prothrombin, except to a limited degree.[9]

Intestinal Diseases—The hemorrhagic states, which exist in connection with certain intestinal diseases characterized by either a loss of continuity of the intestinal tract or by a disturbance of its absorptive surface, are also affected in a specific manner by vitamin K.[13]

Storage in Body—The observations regarding postoperative deficiencies bring out clearly the fact that there is little stored vitamin K in the body, at least in a form available for rapid use. They also emphasize that, while prothrombin is present in amounts considerably in excess of those needed to form a clot of the circulating blood, there are no important body stores of this material which can be drawn on in emergencies.[14]

Other Indications—There are other possible indications for vitamin K. For instance, esophageal or pyloric obstruction or the continuous aspiration by suction of the contents of the stomach and duodenum may also lead to vitamin K deficiency. Intestinal obstruction, short-circuiting operations such as gastroileostomy which reduce the absorptive surface of the small bowel, and diseases associated with chronic diarrhea, such as sprue, ulcerative colitis, dysentery, multiple strictures, or fistulas, have been shown to produce vitamin K deficiency[33].

A large number of diseases which have nothing to do, primarily, with prothrombin deficiency have sometimes been classified as "hemorrhagic diseases." For further information and for a classification of these diseases, the reader may consult "Piney and Wyard. Clinical Atlas of Blood Diseases" (Blakiston & Company, Philadelphia, Pa.).

Vitamin K and Bile Salts—Oral administration of vitamin K with bile salts, clinically and experimentally, has been found, usually, to give the most satisfactory

results when bile is excluded from the gastor-intestinal tract either as a result of biliary obstruction or fistula.[14, 34, 35, 36, 37, 38] However, bile salts need not be given when parenteral vitamin K therapy is used.[39, 40]

Average Dose—The average dose for Menadione, U.S.P. XII, is given as 1 mg. (1/60 gr.). It is recommended that the dose should not exceed 2 mg. a day, and should not be continued for a period exceeding four weeks. In cases of prothrombin deficiency due to bile obstruction, bile salts should be administered when menadione is given orally.[12, 15]

Toxicity

In the recommended therapeutic doses, vitamin K and its related synthetic products are said to be non-toxic.[34, 40, 41, 42]

Application (Pharmaceutical)

Menadione may be administered in the form of compressed tablets, capsules, or solutions.

Menadione tablets may be prepared by the usual procedure* of manufacture for compressed tablets. The following formula, or a modification, may be used:

Menadione Tablets 1 mg. (approx. 1/60 gr.)		
Quantity:	105,000	
Die-size:	3/16″ or 7/32″	
Menadione		3 oz. 5 dr. 6 gr.
Sugar, Powdered	4 lb.	
Milk Sugar	5 lb.	
Moistener:	Water	
Talc	1 lb.	
Starch		6 oz.

Hard gelatin capsules of Menadione may be prepared; the usual dosage form being 1 mg. per capsule.

Where oral administration in tablet or capsule form is not possible or desirable, Menadione may be administered in either aqueous or oil solution. Either solution may contain 2 mg. of Menadione per cc.

The aqueous solution may be sterilized and stored in ampuls (i.e., 5 cc., 10 cc.), for intravenous use when indicated, especially where rapid initial prothrombin response is desired.

A suitable vegetable oil may be employed in the preparation of an oil solution of Menadione, and the solution may be stored in vials (i.e., 5 cc., 10 cc., 30 cc., 50 cc.) or rubber-diaphragm bottles of similar capacity. Such oil solutions may be used intramuscularly or subcutaneously where delayed action is desired. The oil solution may also be packaged in dropper bottles, for oral administration to infants, and for oral administration to adults who cannot swallow tablets or capsules.

Menadione may be applied percutaneously either by employing the oil solution, or by applying an ointment of Menadione (1%) prepared with a suitable ointment base.

*General procedures for the manufacture of compressed tablets are given in (a) Remington's Practice of Pharmacy, 8th Edition, 1942, page 1710 (J. P. Lippincott Co., Philadelphia, Pa.); (b) Pharmaceutical Dispensing, by William J. Husa, 1941, page 89 (Mack Printing Co., Easton, Pa.); and (c) The Art of Compounding, by Wilbur L. Scoville and Justin L. Powers, 6th Edition, 1937, page 223 (P. Blakiston's Son & Co., Inc., Philadelphia, Pa.).

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Cosmetic Hormone Creams

(Continued from page 44)

tion of the cells, there had been no scientifically controlled experiments to demonstrate that the use of the creams had any lasting effects." It will be noted that Dr. Schwartz raises no question of potential harm or "danger," he simply questions "that the use of the creams had any lasting effects."

This point deserves to be labored inasmuch as the State of Virginia has arbitrarily branded these products "dangerous" in the face of conclusive evidence to the contrary. It is probably a fair assumption that the framers of the law had neither the intention nor the desire so to brand these products and that the broad language used has unwittingly placed them in that position. Nevertheless, it has the effect of imposing severe and unwarranted restrictions on the marketing of these creams, of increasing the price to the consumer by the amount of the doctor's prescription, and of removing the right of the department store to sell such creams unless a licensed pharmacist is employed. If the Virginia law took into account anywhere the degree of concentration or potency, there could be no quarrel with it, but in its present blanket form it is a dangerous threat to cosmetic marketing. Even manufacturers who do not have or at present plan a cream of this type should nevertheless be deeply concerned for if permitted to remain as a precedent it may well prove a severe handicap to many of the cosmetic products of the future.

Menadione

(Continued from page 117)

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Doing Business in Latin-America

(*Continued from page 41*)

cians might not revive the same products at some later date for some reason or another.

The British Method

The British and German pharmacopoeias have been careful in this respect. They have continued to carry in their official compendia, the products which their export markets desired. Totaquine has long been in the British Pharmacopoeia even though it was not used in England. The British Empire is large and some of its possessions, notably India, contained cinchona trees, the bark of which could be used for the production of totaquine but not for quinine. Therefore the British Pharmacopoeia always carried a monograph on totaquine. In other words, these countries which have lived largely through foreign trade, consider all angles of promoting their foreign trade with the same interest as they consider their domestic trade problems. On the other hand, we have treated foreign trade as a stepchild, and anyone who tried to take action to promote this trade was looked upon as something not much less than an enemy of the country. It is, therefore, up to all scientific groups and societies, all government agencies and departments, and all legislators in this country to take an entirely different view of the promotion of foreign trade since this trade will probably be very vital to us in the post-war period.

Dr. Carle M. Bigelow, director of Calco Chemical's Pharmaceutical Department, told the American Pharmaceutical Manufacturers Association last month that he looks upon Latin-America as a market which will

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offer additional sales opportunities at least for the time being. Dr. Bigelow was speaking strictly from the point of view of exporting products direct from this country, and not from the viewpoint of establishing real manufacturing and distributing facilities in those countries under the direct supervision of competent officials. Therefore, certain misgivings are apparent in Dr. Bigelow's statements as to the extent to which direct export could be carried on, and as to the length of time that the opportunity for direct export will exist.

Nationalistic Tendency Growing

To quote Dr. Bigelow: "How long this opportunity will exist, no one can tell; there seems to be an ever increasing nationalistic tendency in the countries of Latin-America to manufacture and distribute their own goods. I cannot help but believe that the trend of distribution of drug products in Latin-America will be toward an increasing demand for bulk drugs, and a lessened opportunity for the export of ethical specialties already packaged. However, as truly new products are developed, there will be at least reasonable time, during which their export, in the form of specialties, will be feasible. We have lost much time in developing this market, during the war. Much of the drug market in South America was firmly in the hands of the Germans. Whether or not the necessary safeguards have been taken to avoid a reinstatement of the peculiarly difficult competitive methods formerly employed by the Germans, is unknown at present. Certainly a real effort along this line is being made by various government bureaus.

Decentralization Plan

"But our exports to Latin America have had a bad start. The 'decentralization plan' was set up by our government with a view to preventing shipment of goods which could in any way assist the enemy; also, to share our restricted supplies fairly among the different countries. The ideals of the plan were excellent; but distance, lack of records, involved details, and foreign competition, resulted in such conditions that, until the early Fall of 1943, it was practically impossible for South American concerns to obtain the proper certificates of necessity from their government committees, or for exporters here to obtain the necessary export licenses. While this was going on, Great Britain delivered the goods. Much of this maladministration has now been corrected.

"There are a few points that can be suggested, which are necessary to doing business successfully in Latin-America. The direction of this work should be placed in the hands of some one with a thorough understanding of Latin-American conditions, who speaks at least Spanish—if possible, also Portuguese—and who will spend a reasonable portion of his time actually in the countries to which you plan to export. Conditions are changing so rapidly that they cannot be managed, even by an experienced individual, from an office in this

country. Correspondence should be conducted in Spanish, for most of the countries, and in Portuguese for Brazil. Whenever it is necessary to use English, be sure that your English cannot be translated incorrectly. Very frequently, a Latin-American refers to the 'opening' of a letter of credit as the 'orifice' of a letter of credit, because the word orifice is the first English translation of the Spanish word for opening. Such words as 'countrymen' should be studiously avoided, as they can be directly translated into Spanish with an entirely different meaning from the one intended.

One-Price Policy

"The Latin-Americans are great dickerers. Reports of competitive prices are often, to put it mildly, exaggerated. The only sound foundation for prices is a strictly one price policy. Shadings, and concessions, will be constantly demanded, and if started, this leads to an utterly chaotic price condition. Study your local conditions, and establish your terms on a sound profit basis, both for the exporter and the importer.

Surplus Dumping

"The policy of trying to dump surplus goods at bargain prices into a foreign country leads only to future difficulties. The individual income of many Latin-Americans is very low, and packages must be small and inexpensive. Aspirin, for instance, is distributed in many countries in envelopes of one tablet, each. Competition is keen, on the part of both American exporters to these countries, and the growing number of Latin-American pharmaceutical manufacturers. There is a common tendency in export to confuse the pharmaceutical manufacturing market and the drug market. Bulk drugs should never be sold to the drug trade; ethical specialties never to the manufacturing trade, except on a proper basis of planned redistribution; and the opportunity for this latter phase is probably disappearing, rapidly.

Local Competition

"Although I am no authority on the subject, I would guess that ten years is probably the limit to expect any widespread exportation of ethical specialties into the better Latin-American countries. There is every evidence that by the end of that, or some other period, the local Latin-American pharmaceutical manufacturers will have captured their local market. There is already a rapidly growing exportation of ethical specialties from some of the Latin-American countries into the others. However, with the great necessity for maintaining maximum production and distribution in the years immediately following the war, a wise development of the Latin-American market certainly presents an opportunity for some temporary relief. But the attempt of any manufacturer in our industry to go into this market without the assistance of personnel experienced in this market, will in most cases lead to disappointment and loss."

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Lemke, Co., B. L....107
Lueders & Co., George....21
Lusteroid Container Co....60

Magnus, Mabee & Reynard, Inc....13
Mallinckrodt Chemical Wks....Insert facing 29
Martin Laboratories....11
Merck & Co., Inc....20
Monsanto Chemical Co....72

National Can Co....6-7
Naugatuck Aromatics....23
New England Collapsible Tube Co....1
N. Y. Quinine & Chemical Works....8
Norda Essential Oil & Chemical Co....12

Orbis Products Corp....66

Package Machinery Co....46
Parento Co., Compagnie....Insert facing 4
Paris Cosmetics, Inc....Insert between 28-29
Parsons Imports, M. W....96
Penick & Co., S. B....Insert between 28-29
Pennsylvania Refining Co....Insert facing 65
Pfaltz & Bauer Co., Inc....121
Pfizer & Co., Inc., Chas....Cover 4
Pittsburgh Plate Glass Co....85
Pneumatic Scale Corp., Ltd....Insert facing 101
Polak & Schwarz, Inc....120
Powell & Co., Inc., John....108
Pulverizing Machinery Co....83
Purocaine Chemical Co....110

Republic Filters, Inc....86
Ritchie & Co., W. C....3
Robinson Wagner Co....102
Ross, J. O., Engineering Corp....76

Schimmel & Co., Inc....10
Seeley & Co., Inc....106
Seydel Chemical Co....123
Sherwood Refining Co....94
Sonneborn Sons, Inc., L....5
Stafford-Allen & Sons....24
Standard Alcohol Company....91
Standard Specialty & Tube Co....61
Standard Synthetics, Inc....Insert facing 5
Stokes Machine Co., F. J....74
Stokes & Smith Co....85
Sturge Ltd., John & E....17
Swindell Bros., Inc....54
Syntomatic Corp....Insert facing 24

Thurston & Braidich....115
Tombarel Products Corp....109
Triangle Package Machinery Co....81

Ungerer & Co., Inc....Cover 3
U. S. Bottlers Machinery Co....84
U. S. Industrial Chemicals, Inc....Insert between 68-69

Vacuum Distillation Co....123
van-Ameringen-Haebler, Inc....Insert between 8-9
Vanderbilt Co., R. T....114
Van Dyk & Co....94
Verley & Co., Albert....18
Vorac Company, The....113

Welch, Holme & Clark, Inc....102
Whittaker, Clark & Daniels, Inc....111
Will & Baumer Candle Co....115
Wilson Laboratories, Inc....119
Wolf & Co., Jacques....116